

**HYPOGLYCAEMIC ACTIVITY OF
NAAVAL VER CHOORANAM
(Syzygium Cumini)**

&

**NEERKATTU PARIKARA CHOORANUM
(DISSERTATION SUBJECT)**



For the partial fulfillment of requirements to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

(GUNAPADAM BRANCH)

GOVERNMENT SIDDHA MEDICAL COLLEGE

Tirunelveli – 627002

(Affiliated to The Tamilnadu Dr.M.G.R. Medical University, Chennai.32.)

APRIL – 2013



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DEPARTMENT OF SIDDHA

CERTIFICATE OF PARTICIPATION

This is to certify that Dr.*P.VIJAYA KUMAR*.....

has participated as ~~Resource Person~~ / Delegate in the Workshop on

"Research Methodology & Biostatistics" for AYUSH Post Graduates &

Researchers organized by the Dept. of Siddha from ~~04-07-2011~~ to ~~08-07-2011~~


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Dr. Mayil Vahanan Natarajan
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CONTINUOUS MEDICAL EDUCATION PROGRAMME

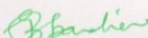
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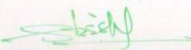
POST GRADUATE DEPARTMENT OF GUNAPADAM
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Certificate

This is to certify that Dr. P. VIJAYKUMAR.
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09.01.2013 at conference hall Gout. Siddha Medical College, Palayamkottai,
Tirunelveli District.

This programme focussed on "INTERLINK BETWEEN THE PLANTS AND THE PLANETS,
HERBAL REMEDY FOR TUBERCULOSIS & GENERAL GUIDELINES FOR RESEARCH AND EVALUATION OF
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1. INTRODUCTION

The Siddha system of medicine is largely therapeutic in nature and the origin of siddha can be traced back to the birth of human beings on this planet. Siddha system of medicine is a form of traditional medicine which originated from south India.

As per traditional tales, it is deemed that lord shiva , unfolded the knowledge about Siddha to his wife Parvathi, inturn passed it into Nandhi Dev, who ever handed it to the Siddhars. Nevertheless saint Agasthiyar is accredited for finding the Siddha system of medicine. His works on medicine and surgery still serve as standards among Siddha medical practitioners.

Siddhar one who has attained (or) achieved powers through Astanga yoga. “ Siddha medicine is claimed to revitalize and rejuvenate dys functional organs that cause the disease and to maintain the ratio of Vatha, Pitha and Kapha.

Our fore fathers lead their lives in harmony with mother nature and hence were somehow able to prevent many diseases and lead to normal life. But now fast paced modern world people have switched to inappropriate lifestyles and unhealthy food habits. This leads to wide array of diseases, which modern system of medicine is unable and difficult to treat effectively.

One such disease is Diabetes Mellitus. According to Siddha Medical Science, the disease Madhumegam which is compared to “Diabetes Mellitus. All the seven thatus are damaged in this disease. The person suffering from this major metabolic disease is considered to “ die a bit” and here “die a bit” is “diabetes” and “Mellitus” means “Honey” in Greek.

‘ The author has selected “Naavel ver chooranam” for treating Diabetes Mellitus (Madhu Megam)

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2. AIM AND OBJECTIVES

NAVAL VER CHOORANAM

AIM AND OBJECTIVE

The author's main aim is to provide a valuable and easily available drug to the Madhumegam patients at affordable cost.

All medical practitioners are eagerly searching for prevention and a complete remedy for madhumegam.

As per author's view by this research work, Madhumegam treated with **NAAVAL VER CHOORANAM** may give a satisfaction and relief to Millions and Millions of patients suffering from **Madhumegam**.

The book titles "**Gunapadam Mooligai Vaguppu**" Page No 454 has narrated the drug Naaval ver for Madhumegam.

The Siddhars concept has been states as

“வேரு பாரு தழை பாரு மிஞ்சினக்கால் மெல்லமெல்ல
பற்ப செந்தூரம் பாரு”

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So author selected the drug **Naaval (VER)** which is a common and easily available tree, so that it can be accessed easily by poor people.

The study was done in the following aspects.

Botanical aspects,

Gunapadam aspects

Scientific aspects,

Biochemical analysis

Microbiological analysis

Toxicological study

Pharmacological study and

clinical assessment

1. அகஸ்தியர் சில்லறைக் கோவை

3.REVIEW OF LITERATURES

NAVAL VER CHOORANAM

3.1 BOTANICAL ASPECT

Syzygium Cuminii (NAAVAL)

***Syzygium cuminii* (Naaval)**



***Syzygium cuminii* (Naaval) Flower**



***Syzygium cuminii* (Naaval) Fruit**



REVIEW OF LITERATURES

BOTANICAL ASPECT CLASSIFICATION

According to Bentham and Hookers classification. *Syzygium Cumini*; DC' is classified as follows,

CLASS	:	Dicotyledons
SUBCLASS	:	Polypetalae
SERIES	:	Calyciflorae
ORDER	:	Myrtaceae
GENUS	:	<i>Syzygium</i>
SPECIES	:	<i>Cumini</i>

DISTRIBUTION:

It is common throughout India, Ceylon, Burma, Malaya, Australia

GARDENING:

Propagated by seeds.

DESCRIPTION:

Habit :

A large ever green glabrous tree up to 3.8 m girth and 30m height.

Leaves: Usually 8-16cm by 4-6 cm Lanceolate, elliptic, oblong or broadly ovate, acute, acuminate (or) Sub obtuse Coriaceous, Smooth and shining above with numerous close parallel fine secondary nerves uniting to form an intra marginal vein.

Flowers:

Small, crowded in short racemes, creamy white, fragrant, Peduncle arising below the leaves.

BARK:

Pale brown, slightly rough on old stems with shallow cracks and depressions exfoliating in woody scales. Blazes 4cm, fibrous red(or) Pinkish brown.

FRUIT:

Egg shaped (or) elliptic crowned with the remains of the calyx, turning deep purple with ripe.

PHYTO CHEMISTRY:

Bark contains Tannin 12%

Betulinic acid (M.P. 306-10⁰)

β -sitoserol

Friedelin (C₃₀H₅₀ O, M.P256-60⁰)

And a substance (C₅₈ H₁₀₆ O₂, MP169-72⁰)

Ester of elpi-friedelanol (C₃₀H₅₁OH)

Fatty acid (C₂₇H₅₅ CoOH)

It also contains

Gallic acid

Ellagic acid and

Myricetin

Analysis- Edible Matter 68.00P.C

On edible Matter – Reducing Sugars 8.08P.P, Non-reducing sugars 9.28P.C, Total sugars 17.38P.C and Acidity in terms of sulphuric acid 1.20 P.C respectively.

Glucoside 'Jamboline' is said to have the power of checking the pathological conversion of starch into sugar in cases of increased production of glucose.

Extracts of the bark, stem, leaves possess moderate antibiotic activity against Micrococcus Pyrogens Var.aures)

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NUTRITIONAL VALUE (PER 100GM) OF NAAVAL

Carbohydrate - 251 KJ (60Kcal)

Fat - 0.23g

Protein	-	0.72g
Water	-	83.13g
Vitamin A	-	31u
Thiamine (VitB ₁)	-	0.006mg
Vitamin C	-	14.3mg
Calcium	-	19mg
Iron	-	0.19mg
Magnesium	-	15mg
Phosphorus	-	13mg
Potassium	-	79mg
Sodium	-	14mg

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2	-	Indian Medicinal Plants
	-	(Kritikar and Basu)
	-	Trees of India
	-	Indian Materia medica
	-	The wealth of India

3.2 GUNAPADAM ASPECT

NAVAL VER

GUNAPADAM ASPECT

வேறு பெயர்கள்:

➤ நவ்வல்	நேரேடு
நம்பு	நேரேடம்
சம்பு	சாட்டுவலம்
சாதவம்	சாம்பல்
ஆருகதம்	சுரபிபத்திரை
	-3
➤ கருங்கணி	
சம்பு	-4

VERNACULAR NAMES:

Tam	: Neredam, Naval, Sambal,
Eng	: Jambhool, Black plum, Javaplum
Hindi	: Jamen, Jam
Beng	: Jam, Kalajam
Gut	: Jambu, Jamuli
Mar	: Jaman, Jambol
Tel	: Neereedu
Kan	: Neralu
Mal	: Naval, Perinnaral
Oriya	: Jamo
Sans	: Jambu
Urdu	:Jaman

3. குணபாடம் மூலிகை வகுப்பு ப.எண்.571- (மறுஅச்சு) 2006.

4. அகத்தியர் மணி 4000 ப.எண்.37

நாவல்மரம் நம்நாடு முழுமையும் வளருகின்றது. இதில் வெள்ளை நாவல், கொடிநாவல், குழிநாவல், கருநாவல், சம்புநாவல் என பலவகையுள்ளன.

பயன்படும் உறுப்புகள்:

வேர், இலை, பட்டை, கொட்டை, பழம்

Taste (Suvai) - Astringent (Thuvarppu)

Potency (Thanmai) - Coolent (Thatpam)

Bio-Transformation (Pirivu) - Pungent (Karppu)

செய்கை:

பொது

துவர்ப்பி - Astringent

பசித்தீத்தூண்டி - Stomachic

உடலுரமாக்கி - Tonic

புழுக்கொல்லி - Anthelmintic

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நாவல்வேர் பொதுக்குணமும், ஆதாரமும்:

“வாத மறுங்கரப்பான் மாறும் வீரணமொடு
ஓதமுறு நீரிழிவு முந்திரத்த - சீதமுங்காய்
மாவன் சுரமும் வளர்மேக மும்போகும்
நாவலன் வேரதனை நாடு.”

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வேரினால், வளிநோய்கள், கரப்பான், புண், நீரிழிவு, குருதிக் கழிச்சல, சுரமும் போகும்.

5. Indian Materia Medica

6. குணபாடம் மூலிகை வகுப்பு ப.எண் - 572

நாவல் வேர் சேரும் நீரிழிவிற்கான மருந்துகள்

"வாத மறுங்கரப்பான் மாறும் விரணமோ
டோதமுறு நீரிழிவு முந்துரத்த - சீதமுங்காய்
மாவன் சுரமும் வளர்மேக மும்போகம்
நாவல் மரவேரினால்"

குணம்:

நாவல் மரவேரால் வாதவிகாரம், கரப்பான் புண், வெகுமுத்திரம், ரத்தசீதபேதி, வாதசுரம், இவைகள் போகும்.

❖ நாவல் மரத்தின் வேரினை இடித்து கஷாயமாக கொடுக்க

வாதம்
கரப்பான்
புண்
நீரிழிவு
ரத்தபேதி இவை விலகும்.

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❖ மதுமேக கியாழம்:

ஆவாரைப் பஞ்சாகம் : பலம் 2
நாவல் பட்டை : பலம் 2
கடலழிஞ்சில் பட்டை : பலம் 2
மருதம் பட்டை : பலம் 2
தண்ணீர் விட்டான் : பலம் 2
பாதிரி வேர் : பலம் 2
மரமஞ்சள் : பலம் 1
குரோசாணி ஓமம் : பலம் 1/4
இவற்றை முறைப்படி குடி நீராக்கி உட்கொள்ளலாம்.

பயன்:

மண்டலம் சாப்பிட்டு வர மதுமேகம், அழலை, தாகம் தீரும்.

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7. பல்லாண்டு வாழ்க (ப.நீலக்கண்டன்)
8. கண்ணுசாமியம் எனும் வைத்திய சேகரம் : ப.எண்:35

❖ கற்க வகைகள்:

நாவல் வேர் பட்டையை அரைத்து புன்னைக்காயளவு பசுவின் பாலில் கலந்து
கொடுக்க நீரழிவு, வெகு மூத்திரம் தீரும்.

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❖ நீரிழிவு மெழுகு :

"நெஞ்சகத்தி நாயுருவி , வெள்வேலத்தி
நீர்முள்ளி ஆவாரை வகையோடு
கருங்காலி விரை வகைக்கு பலமும் நாலு
கடலஞ்சி கருவேலும் நாவற்பட்டை
திரிபலையும் முள்ளுலகும் பிசின்

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❖ மார்க் கண்டேயன் நெய்:

"கரித்தோலும் நரித்தோலும், கருவேலந்தோலும்
கலந்திடித்துத் தூளை வடிகட்டி கொண்டு
உரித்தான் கதலிப் பழந்தன்னில் சேர்த்து
ஒன்றாக பிசைந்து வைக்க செய நீராடு
வருத்தமில்லா -----

போற்றியே நவ நாளோர் கரண்டி வீதம்
புகட்டவே நீரழிவு பிரமேகங்கள்
சாற்றியதோர் நவமூலங் கிரணி வெட்டை-----"

குறிப்பு:

கரித்தோல் - அத்திப்பட்டை: நரித்தோல் - நாவற்பட்டை: கருவேலம் -
கருவேலம் பட்டை

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9.மூலிகை மருத்துவ திரட்டு

10. இராமத்தேவர் எனும் யாகோபு வைத்திய சிந்தாமணி 700: ப.எண் 187:
பாடல் 311

11.இராமத்தேவர் சித்த மருத்துவ களஞ்சியம்: ப.எண் :14

❖ ஜம்பு கிருதம்:

25 பலம் நாவற்பட்டையை சிறு திண்டுகளாக நறுக்கி பஞ்சு போலிடித்து 4 படி ஜலம் விட்டு அரைப்படியாக சுண்டக் காய்ச்சி வடித்த கசாயம், ஏலம், இலவங்கப்பட்டை, கற்கடக சிங்கி, காட்டாத்தி பூ, காய்ச்சுக்கட்டி, மரமஞ்சள், சீரகம், சிறு நாகப்பூ, அதிமதுரம், கோஷ்டம், விளாம்பிசின் இவைகளின் சூரணம் வகைக்கு பலம் 1/2 அபன் பலம் 1/4 சூரணங்களை கஷாயத்தால் நெகிழ் அரத்து பசுவின் நெய் 1/2 படி சேர்த்து காய்ச்சி கொள்ளவும்.

பிரயோகம்:

வேளைக்கு 1/2 முதல் 1 கரண்டி அளவாக காலை, மாலை உட்கொண்டு வர மதுமேகம் பெரும்பாடு நீங்கும்.

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❖ சூரண வகைகள்:

திரிபலாதி குடிநீர் சூரணம்

கடுக்காய்

தான்றிக்காய்

நெல்லி

ஆவாரம் பூ

நாவல் பட்டை

மஞ்சள்

மர மஞ்சள்

உலர்ந்த மூங்கில் இலை

வகைக்கு 10 கி எடுத்து சுரணித்து வைத்துக் கொண்டு வெந் நீரால் கலந்து

இருவேளை பிரயோகித்து வர நீரிழிவு தீரும்.

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12. சிகிச்சாரத்ன தீபம்: ப.எண்: 203

13. உயிர் காக்கும் சூரணங்கள்: ப.எண்: 34

Syzygium cuminii (Naaval) Root



3.3 SIDDHA ASPECT OF DISEASE

DIABETES MELLITUS (MADHU MEGAM)

SIDDHA ASPECT OF DISEASE MADHUMEGAM

வேறு பெயர்:

மதுமேகம்

இனிப்பு நீர்

இயல்:

அடிக்கடி சிறுநீர் பெருவாரியாய் இழிதல், நீரிழிந்த இடத்தில் ஈ., எறும்புகள் மொய்த்தல், அதனை காய்ச்சினால் சர்க்கரை மணம் வீசல், உடல் நாளுக்கு நாள் இளைத்தல் என்னும் இயல்புடைய நோயாகும்.

நோய் வரும் வழி:

நீரிழிவு நோய் அளவு கடந்த கலவியால் மேகத்தைத் தொடர்ச் செய்து வரும் நோய் எனக் கொள்ளப்படும். அன்றியும் மிகு உணவு, சோம்பித் திரிதல், மனக்கலக்கம், பொருளின் மீது மிகுந்த இச்சை என்னும் இவற்றாலும், தாய் தந்தையின் வழியாகவும் வரக்கூடுமென அறிதல் வேண்டும்.

முற்குறிகள்:

சிறுநீர், தெளிந்த நீர்போல் அடிக்கடி படிக்கணக்கில் இழிதலும், இழிந்த நீர்த்துளிகள் சற்று உலரின் பிசுபிசுத்துக் காணுதலும், உடல் வன்மை நாளுக்கு நாள் குறைந்து கொண்டே வருதலும், நாவறட்சியும் ஆகிய முற்குறிகளைக் காட்டும்.

நோயின் குறிகுணங்கள்

- ❖ நீர் மிகுந்த அளவில் இறங்கும்.
- ❖ நீரின் நிறம் - தண்ணீரைப்போலும்
 - நிறை - அளவு கடந்தும்
 - எடை - கனத்தும்
 - மணம் - தேன்போலும் காணும்
- ❖ நெய், பால் உண்டாலும் உடல் ஊட்டம் தராமை,
- ❖ மூச்சு, வியர்வை இவற்றில் தேன் மணம் வீசல்.
- ❖ கண்ணில் திரையுண்டாதல் (படலம்)

- ❖ சிறுநீர் நாளுக்கு நாள் குறைந்து நீர்கட்டு நோயை உண்டாக்கும்.
- ❖ பிறகு படுக்கையில் கிடத்தி இருமல், இரைப்பு, இளைப்பு. தமரகவாயு, நரம்பு தளர்ச்சி முதலிய நோய்களைத் துணைக்கொண்டு கொல்லும்.

குற்ற வேறுபாடுகள்:

ஐயம் தன்னிலையில் கேடடைந்து, 7 உடற்கட்டுகள் ஒன்றன்பின் ஒன்றாக கேடடைந்து, பல வகைப்பட்ட நோய்களையும் முதல் நோய்க்கு துணையாக்கும்.

“குறியுடனே மேகந்தான் கொடுமை செய்து”

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முடிவு:

மேகநீர் அல்லது நீரினைப் பெருக்கல் நோய்கள் 20.

இதில்’

வளிக் குற்றத்தால் வருவது - 4

அழல் குற்றத்தால் வருவது - 6

ஐயக் குற்றத்தால் வருவது - 10

மதுமேகம், மேகநீர் இருபதினில் அழல் குற்றத்தில் அடங்கும்.

“தன்மையாய்ச் சலந்தானும் பசுப்பு மஞ்சள்

தானிறங்கும் பீசமுங்கோ சமுங்கடுக்கும்

அண்மையா யிடிக்கடிக்கு நீரிறங்கு

மடிக்கடிக்கு அரைநாழி தனிலே காணும்

வெண்மையா யழயதனிறி றான்பி டிக்கும்

மிக்கான சடம்வெளுத்து மேனி கன்றும்’

பண்மையாய்ப் பஞ்சவாண் டதனிற் கொல்லும்

பகர்கின்ற மதுமேகப் பாங்குதானே”

இந்நோயில் வேளைக்கு அரைப்படி அளவாய் அடிக்கடி நீரிழியும். நீரிறங்கும் போதெல்லாம் நீர்ப்புழை கருத்து, விரை நோகும். நீரைக் காய்ச்சின் தேனின் மணமுண்டாகும்.

3.4 MODERN ASPECT OF DISEASE

DIABETES MELLITUS

MODERN ASPECT OF DISEASE

DIABETES MELLITUS

Definition:

It is a clinical syndrome characterized by **Hyperglycaemia, Glycosuria** due to absolute or relative **deficiency of Insulin**.

Epidemiology

- Worldwide distribution
- Nearly 170 millions of people are affected, after 20 years it will be doubled due to
 - Urbanisation
 - Environmental factors
 - Sedentary life
 - Food habits
 - Lack of exercise.

CLASSIFICATION: AETIOLOGICALLY:

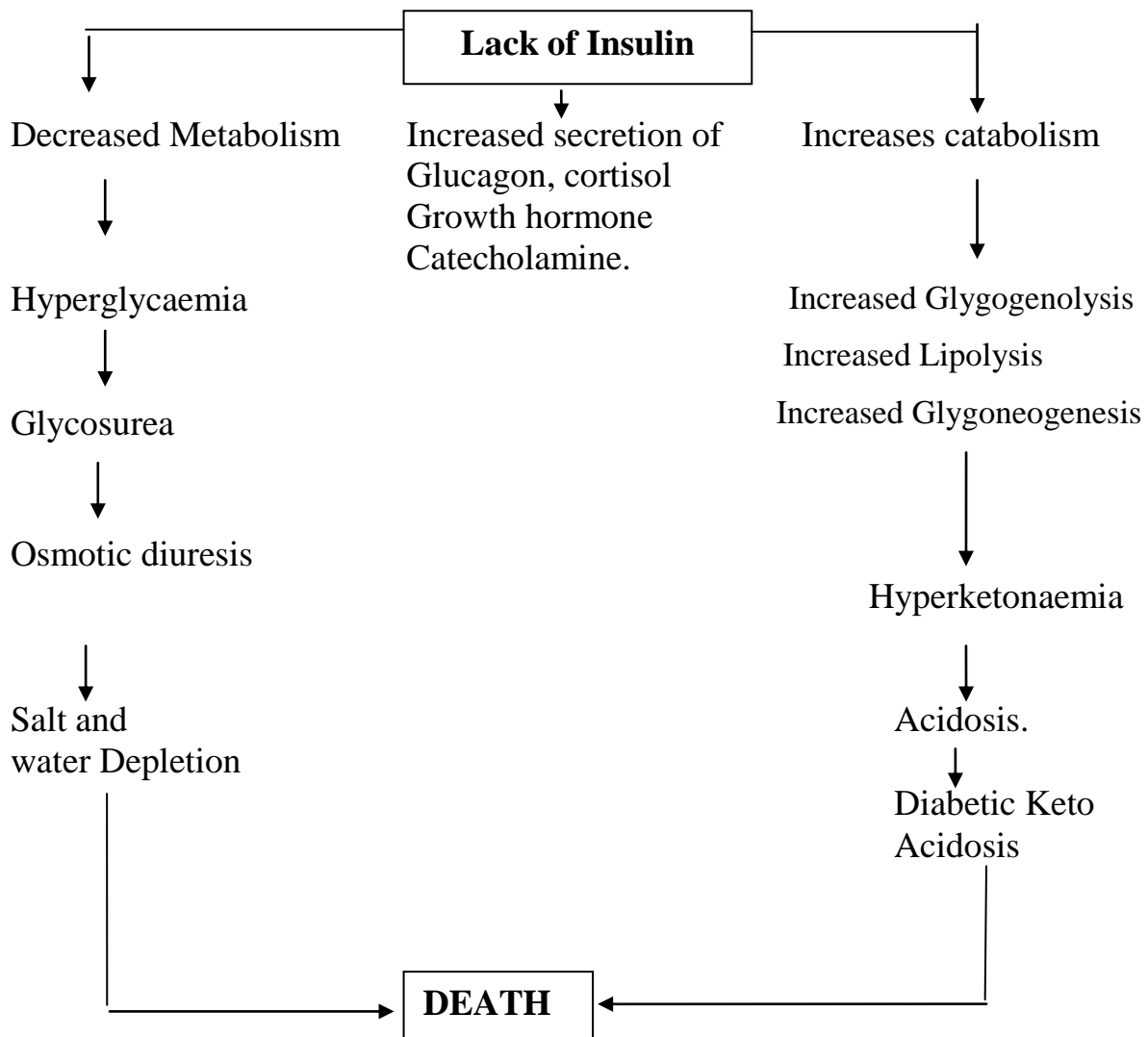
1. Type I DM – IDDM
2. Type II DM – NIDDM

RISK FACTORS:

1. Family history of DM
2. Obesity
3. Physical inactivity
4. Previously identified IGT (Impaired Glucose tolerance)
5. History of Gestational DM
6. Delivery of Large Baby (>4kg)

- 7. Hypertension
- 8. HDL < 35mg/dl
- 9. TGL > 250 mg/dl
- 10. Polycystic Ovarian Syndrome
- 11. Acanthosis nigricans
- 12. History of Vascular disease

PATHOPHYSIOLOGICAL BASIS OF SIGNS & SYMPTOMS OF DM



CLINICAL FEATURES:

1. Polyphagia
2. Polyuria
3. Nocturia
4. Polydipsia
5. Tiredness, Fatigue, Irritability
6. Lose of weight
7. Blurring of vision, cataract
8. Pruritis, Vulvitis, Balanitis
9. Intense Itching in anus & external genetalia
10. Fungal Infection
11. Unhealed wound.

Investigations

1. Urine –

- Albumin (+ve in Type 2 DM)
- Sugar +ve
- Deposits – Puscells +ve
castcells+ve

2. Blood : HbA₁C

Sugar

- Fasting
- Post Prondial
- Random

❖ Oral GTT:

- Intra venous Glucose tolerance test;
- Lipid profile:
- Electrolyte –

- USG Abdomen
 - Xray chest
 - ECG changes
 - Doppler study.

3. DIABETIC COMPLICATIONS:

ACUTE COMPLICATIONS

1. Diabetic keto Acidosis
2. Hyper osmolar coma
3. Hypoglycaemia

CHRONIC COMPLICATIONS:

1. Microvascular
2. Macrovascular
3. Others.
 - a) Gastrointestinal
 - b) Genitourinary – (Impotence)
 - c) Dermatologic – Pruritis,
Boils,
carbuncles,
Fungal infection
 - d) cardiomyopathy
 - e) Diabetic foot

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3.5 LATERAL RESEARCH WORK

Syzygium Cuminii (Naaval)

LATERAL RESEARCH WORK

Syzygium Cuminii (Naaval)

- **Anti-Diabetes:**

Animal study of aqueous extract from SC bark showed stimulation of development of insulin positive cells from the pancreatic duct epithelial cells.

- **Anti-Diabetic / a-glucosidase:**

Study of SC seed kernel extracts in vitro and in Goto–Kakizaki (GK) ratsshowed inhibition of a-glucosidase as a possible mechanism for its anti-diabetic effect.

- **Anti-inflammatory:**

The study on SC extracts established the anti-inflammatory activity of the SC seed.

- **Anti-inflammatory:**

Study of methanol extract of leaves showed the SC leaf had remarkable acute and chronic anti-inflammatory actions in the tested rodent models.

- **Radioprotective:**

(1) Influence of Seed Extract of Syzygium Cumini (Jamun) on Mice Exposed to Different Doses of .GAMMA.-radiation : SCE treatment protected mice against radiation sickness and mortality against all doses and showed an increase survival. (2) Study demonstrated jamun extract protected mice against radiation-induced DNA-damage and inhibition of radiation-induced free radical formation may be one of the mechanisms of radioprotection.

- **Gastroprotective:**

The gastroprotective effect of tannins extracted from duhat (Syzygium cumini Skeels) bark on HCl/ethanol induced gastric mucosal injury in Sprague-Dawley rats: The study suggests the tannins extracted from SC have gastroprotective and anti-ulcerogenic effects.

- **Antioxidant / Tannins:**

Study isolated tannins from the fruit of SC and suggests the use of the fruit as a significant source of natural antioxidants.

- **Central Nervous System Activity:**

Animal study of seed extract of SC showed dose-dependent depressant effect of locomotion attributed to the presence of saponins.

- **a-Amylase Inhibition / Anti-Hyperglycemic:**

Study of 11 medicinal plants showed *Syzygium cumini* seeds with strong inhibition of a-amylase activity. Crude ethanolic and aqueous extracts reduced glycemia of diabetic rats. The bark showed anti-hyperglycemic activity.

- **Anti-Cervical Cancer:**

Study of *Z. cumini* extract showed inhibition of growth and induction of apoptosis in HeLa and SiHa cervical cancer cell lines in a time- and dose-dependent manner.

- **Anti-Allergic:**

Study of on the aqueous leaf extract of *Syzygium cumini* showed the main components to be hydrolyzable tannins and flavonoids. Results showed inhibition of paw edema, edema induced by histamine, prevention of mast cell degranulation and consequent histamine release in Wistar rat peritoneal mast cells.

- **Prophylactic Anti-Septic Effect:**

Study concluded that treatment with *S. jambolanum* has a potent prophylactic anti-septic effect not due to a direct microbicidal effect but rather, associated with a recruitment of activated neutrophils to the infectious site and to a diminished antiinflammatory response.

- **Antibacterial / Glucoamylase Inhibitor / Anti-Diabetic:**

Study of ethanol extract of seeds showed moderate to good antibacterial activity against E. coli, B subtilis, P aeruginosa and S aureus.

- **Cardioprotective:**

Study of a methanolic extract of SC seeds on isoproterenol-induced myocardial infarction in rats confirmed a cardioprotective effect.

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1. MATERIALS AND METHODS

NAAVAL VER CHOORANAM

MATERIALS AND METHODS

4.1 PREPARATION OF NAAVAL VER CHOORANAM

In this dissertation Naaval ver chooranam was taken as a single drug study to test its efficacy in treating Madhu Megam.

The reference is taken from the book Gunapadam Mooligai Vaguppu page No.571

Collection of the test drug:

The fresh Naaval ver were collected in Tirunelveli.

Preparation of the test drug

The collected Naaval ver were cleaned with white cloth. Then they were dried in the shadow for 5-7 days. Dried Naaval ver were made into fine powder and filtered by pure cloth (Vasthirakayam)

Purification of the chooranam

A mud pot was taken and was filled with equal part of milk and water. A thin white cloth was tied round mouth of the pot. Naaval ver chooranam was placed over the cloth and it was covered with another suitable mud pot. It was kept on the fire until the milk level decreased. The chooranam is then dried and filtered through a white cloth. It was stored in a clean and dry container. The prepared chooranam was observed from time to time to safe guard against moisture and Insects.

Route of administration

Enteral route (oral route)

Dosage

1 gm twice a day before meals.

Anupanam:

Hot water

The prepared chooranam was used for

Biochemical analysis

Pharmacological analysis

SEM

FTIR as well as

Clinical studies.

NAAVAL VER PATTAI



NAAVAL VER CHOORANAM



4.2 STANDARDIZATION OF THE DRUG

NAAVAL VER CHOORANAM

4.2 (a) PHYSIOCHEMICAL ANALYSIS

NAAVAL VER CHOORANAM

PHYSICAL PROPERTIES*

The standardization parameters of Naaval ver chooranam was done at Sastra university Thanjavur-401 The tests done are as follows.

pH at 1% of aqueous solution:

Five grams of Naaval ver chooranam is weighed accurately and placed in clear 100 ml beaker. Then 50 ml of distilled water is added to it and dissolved well. Wait for 30 minutes and then apply in to pH meter at standard buffer solution of 4.0, 7.0 and 9.2

Loss on drying@ 105⁰ C:

Five gram of Naaval ver chooranam is heated in a hot oven at 1000 C to constant weight. The percentage of loss of weight was calculated as 2.37%.

Determination of ash value:

Weighed accurately 2 grams of Naaval ver chooranam in tarred platinum or silica dish and incinerate at a temperature not exceeding 450⁰C until free from carbon, cooled, and weighed. Calculate the percentage of ash as 9.49% with reference to the air dried drug.

Water soluble ash:

To the gooch crucible containing to the total ash, added 25 ml of water and boiled for 5 minutes. Collected the insoluble matter in a sintered glass crucible or on ash less filter paper. Wash with hot water and ignite in a crucible for 15 minutes at a temperature not exceeding 450⁰ C subtract the weight of the insoluble matter from the weight of the ash the difference of the weight represents the water soluble ash. Calculate the percentage of water soluble ash as 29.78% with reference to the air dried drug.

SHANMUGHA ARTS, SCIENCE, TECHNOLOGY & RESEARCH ACADEMY (SASTRA)



(A University established under Section 3 of the UGC Act, 1956)

SASTRA University Tirumalaisamudram, Thanjavur-613401.

Centre for Advanced Research in Indian System of Medicine (CARISM)



GOVT. APPROVED DRUG TESTING LABORATORY APPROVAL No. R.DIS.NO.:282/2010

CERTIFICATE OF ANALYSIS

Name of the Product: 098-Naval Ver Chooranam
Date of Sampling : 09.10.12

Report No : CAR/DTL/CUR055
Report Date: 18.12.12

PHYSICO-CHEMICAL STANDARDISATION

S.No	TESTS	AS PER ANALYSIS
1.	Description	Puff coloured powder
2.	pH(1% w/v solution)	5.89
3.	Bulk density	0.35gm/ml
4.	Tap density	0.51gm/ml
5.	Loss on Drying at 105°C	2.37%
6.	Total Ash	9.49%
7.	Acid Insoluble Ash	2.59%
8.	Water Soluble Extractive	29.78%
9.	Alcohol Soluble Extractive	28.96%

SIEVE ANALYSIS

S.No	Sieve No (μ)	% of particles retained
1.	600	Nil
2.	300	0.77
3.	150	5.22
4.	75	14.00
5.	Final Product	79.55

K. N. N. N.
ANALYST

M. K. S.
LAB IN-CHARGE

F. M. S.
ASSOCIATE DEAN & CO-ORDINATOR

4.2 (b) BIO – CHEMICAL ANALYSIS

NAAVAL VER CHOORANAM

BIO – CHEMICAL ANALYSIS OF NAAVAL VER CHOORANAM

PREPARATION OF THE EXTRACT

5 gms of the drug was weighted accurately and placed in a 250ml clean beaker. Then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is make up to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S. NO.	EXPERIMENT	OBSERVATION	INFERENCE
1.	<u>TEST FOR CALCIUM</u> 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	No white precipitate is formed	Absence of calcium
2.	<u>TEST FOR SULPHATE:</u> 2ml of the extract is added to 5% barium chloride solution.	A white precipitate is formed	Indicates the presence of Sulphate
3.	<u>TEST FOR CHLORIDE</u> The extract treated with silver nitrate solution.	No white precipitate is formed	Absence of chloride
4.	<u>TEST FOR CARBONATE</u> The substance is treated with concentrated Hcl.	No brisk effervescence is formed	Absence of carbonate
5.	<u>TEST FOR STARCH</u> The extract is added with weak iodine solution.	No blue colour is formed	Absence of starch.

6.	<p><u>TEST FOR IRON (FERRIC)</u></p> <p>The extract is acidified with Glacial acetic acid and potassium ferro cyanide.</p>	No blue colour is formed	Absence of ferric Iron
7.	<p><u>TEST OF IRON FERROUS:</u></p> <p>The extract is treated with concentrated Nitric acid and ammonium thio cynate solution.</p>	Blood red colour is formed	Indicates the presence of ferrous Iron.
8.	<p><u>TEST FOR PHOSPHATE</u></p> <p>The extract is treated with ammonium Molybdate and concentrated nitric acid.</p>	No yellow precipitate	Absence of Phosphate.
9.	<p><u>TEST FOR ALBUMIN</u></p> <p>The extract is treated with Esbach's reagent.</p>	No yellow precipitate is formed	Absence of Albumin
10.	<p><u>TEST FOR TANNIC ACID</u></p> <p>The extract is treated with ferric chloride.</p>	No blue black precipitate is formed	Presence of tannic acid.
11.	<p><u>TEST FOR UNSATURATION</u></p> <p>Potassium permanganate solution is added to the extract.</p>	It gets decolourised	Indicates the presence of unsaturated compound.

12.	<p><u>TEST FOR THE REDUCING SUGAR</u></p> <p>5ml of Benedicts' qualitative solution is taken in a test tube and allowed to boil for 2mts and added 8-10 drops of the extract and again boil it for 2 mts.</p>	Colour change occurs.	Presence of Reducing sugar,.
13.	<p><u>TEST FOR AMINO ACID</u></p> <p>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninydrin is sprayed over the same and dried it well.</p>	No violet colour develops	Absence of Amino acid
14.	<p><u>TEST FOR ZINC:</u></p> <p>The extract is treated with potassium Ferrocyanide.</p>	No white precipitate is formed	Absence of zinc

Inference:

The given sample of “Naavalver chooranum” contains **sulphate, ferrous Iron, Tannic acid, unsaturated compound and Reducing sugars.**

4.2 (c) PHARMACOLOGICAL ANALYSIS

NAVAL VER CHOORANAM

PHARMACOLOGICAL ANALYSIS

Hypoglycaemic study of Naavalver Chooranam

As per the Gunapadam Mooligai Text reference “**Naaval ver Chooranam**” is indicated for Madhumegam. So it was through to screen the Naavalver Chooranam for hypoglycaemic study in rabbits.

Reasons for choice of rabbit

1. Can be handled easily
2. Several number of blood samples can be taken.
3. Blood sugar regulation is more stable and more predictable than rat or mice.

Aim

To evaluate hypoglycaemic acitivity of **Naavalver Chooranam**

Materials and Methods

The test drug 5gm of **Naavalver Chooranam** in 10 ml of water. 2ml of test drug was given to test group.

Procedure

Six healthy young rabbits fasted for 18 hours weighing 1-1 ½kg were selected. Rabbits were kept in a clean condition. Before drug administration fasting blood samples were drawn from marginal ear vein of rabbits at 0 hr for blood sugar analysis.

Then 6 rabbits are divided into 3 groups. Each group containing 2 rabbits. First group rabbits received 5 ml of water and kept as a control group. The second group of rabbits received 1mg of Glibenclamide per 1kg body

weight and kept as standard group. Third group of rabbits received 1gm/kg of test drug. Then the blood samples were collected at 1 ½ hrs and 3 hrs after drug administration. During the experiment period the rabbits were fasted. Blood sugar was estimated according to Enzymatic method.

Results

Details of experiment and results are shown in the table.

Name of drugs/ Groups	Dose per kg of body weight	Value of Fasting samples	Value of P.PL. Samples after 1 ½ hr	Reduction difference in mgs	Percentage reduction	Remarks
Control (water)	5ml	72mgs	72mgs	-	-	
Standard (Dianil)	1mg	109mgs	62mgs	47mgs	43.1mgs%	
Test drug (Naaval ver chooranam)	100mgs %	123mgs	112mgs	11mgs	8.94mgs%	Significant action

Inference:

The test drug **Naaval ver Chooranaum** shows reduction in blood sugar level when compared with standard drug. So **Naavalver Chooranam** has got **significant hypoglycaemic action.**

4.2(d) MICROBIOLOGICAL ANALYSIS

NAVAL VER CHOORANAM

ANTI – MICROBIAL (BACTERIAL) ACTIVITY OF NAAVAL VER CHOORANAM

Aim

To identify the anti-microbial (Bacterial) activity of Naaval ver chooranam against Streptococcus, Staphylococcus, Proteus, Pseudomonas, E.coli.

Medium: Muller Hinton agar

Components of Medium

Beef extract	:	300gms/lit
Agar	:	17gms/lit
Starch	:	1.50gms/lit
Casein Hydroxylate	:	17.50gms/lit
Distilled Water	:	1000 ml
pH	:	7.6

Procedure

The media was prepared from the above components and poured and dried on Petri dish. The organism was streaked on the medium and the test drug (1gm drug in 10ml of Water) was placed on the medium. This is incubated at 37⁰C for one over night and observed for the susceptibility shown up clearance around the drug.

Table : Anti-microbial susceptibility test report

No.	Organism	Susceptibility	Zone of inhibition inmm
1.	Staphylococcus	Resistant	-
2.	Pseudomonal	Resistant	-
3.	E.coli	Moderately sensitive	10 mm
4.	Klebsiella	Resistant	-
5.	Proteus	Resistant	-
6.	Streptococcus	Resistant	-
7.	Candida	Resistant	-

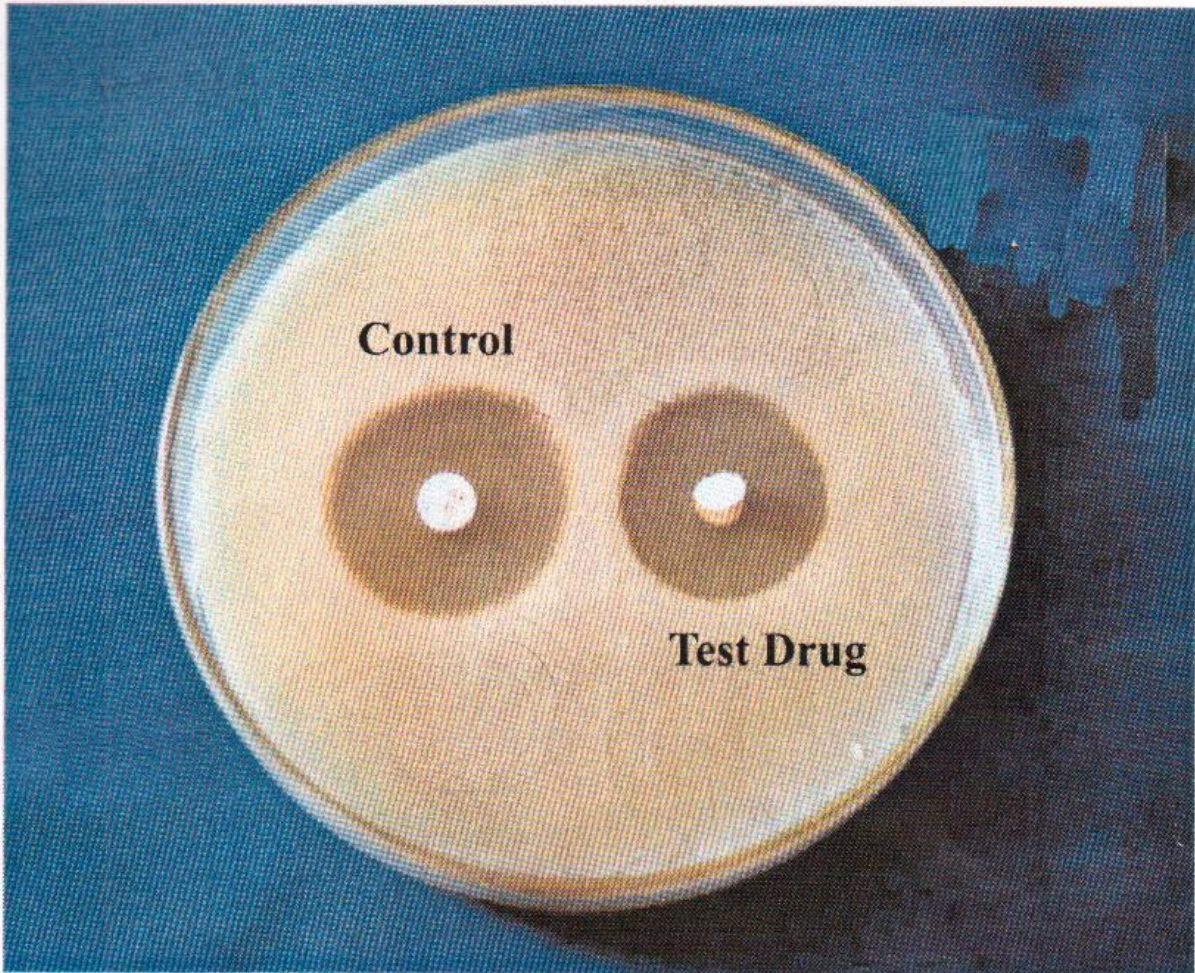
Result

The test drug **Naaval ver Chooranum** was sensitive against **E.Coli**

ANTI-MICROBIAL STUDY OF

NAAVAL VER CHOORANAM

Shows Moderately Sensitive against E.coli



4.2 (e) SCANNING ELECTRON MICROSCOPIC ANALYSIS (SEM)

NAAVAL VER CHOORANAM

SEM – SCANNING ELECTRON MICROSCOPE:



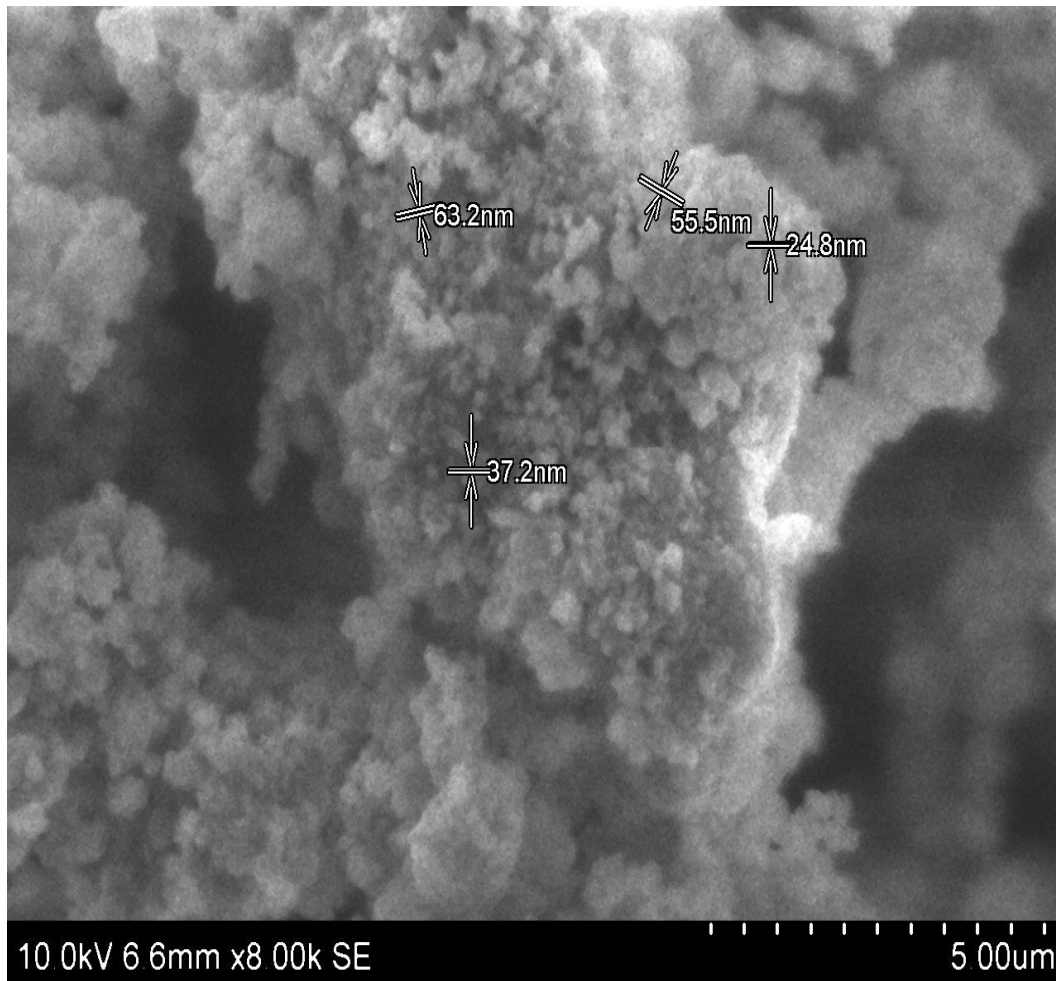
SEM OPENED SAMPLE CHAMBER

A **scanning electron microscope (SEM)** is a type of electron microscope that produces images of a sample by scanning it with a focused beam of electrons. The electrons interact with electrons in the sample, producing various signals that can be detected and that contain information about the sample's surface topography and composition. The electron beam is generally scanned in a raster scan pattern, and the beam's position is combined with the detected signal to produce an image. SEM can achieve resolution better than 1 nanometer. Specimens can be observed in high vacuum, low vacuum and in environmental SEM specimens can be observed in wet condition.

Principles and capacities

The types of signals produced by a SEM include secondary electrons (SE), back-scattered electrons (BSE), characteristic X-rays, light (cathodoluminescence) (CL), specimen current and transmitted electrons.. In the most common or standard detection mode, secondary electron imaging or SEI, the SEM can produce very high-resolution images of a sample surface, revealing details less than 1 nm in size.

SCANNING ELECTRON MICROSCOPIC ANALYSIS (SEM)



SEM Graphs shows the average size of the particle in
Naaval ver chooranam is **45.17 nm**

**4.2 (f) FOURIER TRANSFORM INFRA RED
SPECTROSCOPY ANALYSIS (FTIR)**

NAVAL VER CHOORANAM

FOURIER TRANSFORM INFRARED SPECTROSCOPY

Fourier transform infrared spectroscopy (FTIR)^[1] is a technique which is used to obtain an infrared spectrum of absorption, emission, photoconductivity or Raman scattering of a solid, liquid or gas. An FTIR spectrometer simultaneously collects spectral data in a wide spectral range. This confers a significant advantage over a dispersive spectrometer which measures intensity over a narrow range of wavelengths at a time. FTIR has made dispersive infrared spectrometers all but obsolete (except sometimes in the near infrared), opening up new applications of infrared spectroscopy.

The term *Fourier transform infrared spectroscopy* originates from the fact that a Fourier transform (a mathematical process) is required to convert the raw data into the actual spectrum. For other uses of this kind of technique, see Fourier transform spectroscopy.

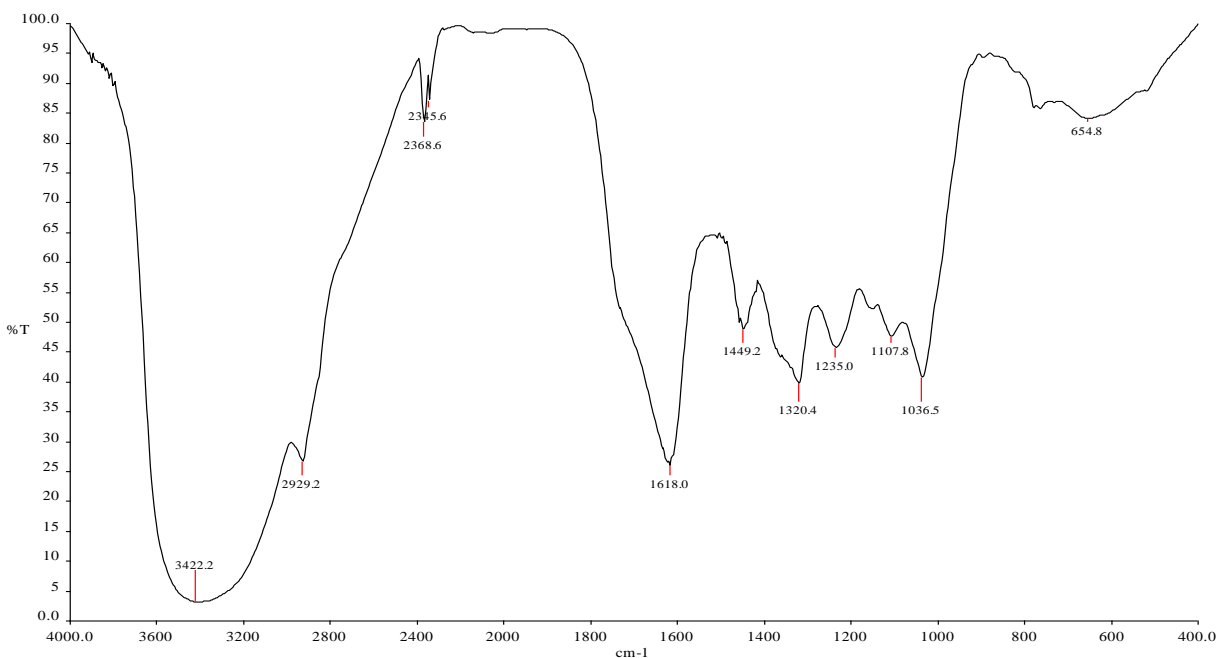
Applications

FTIR can be used in all applications where a dispersive spectrometer was used in the past. In addition, the multiplex and throughput advantages have opened up new areas of application. These include:

- ❖ GC-IR (gas chromatography-infrared spectrometry).
- ❖ TG-IR (thermogravimetry-infrared spectrometry)
- ❖ Micro-samples.
- ❖ Emission spectra.
- ❖ Photocurrent spectra

Applications

This instrument covered the wavelength range from 2.5 μm to 15 μm (wavenumber range 4000 cm^{-1} to 660 cm^{-1}). The lower wavelength limit was chosen to encompass the highest known vibration frequency due to a fundamental molecular vibration. The upper limit was imposed by the fact that the dispersing element was a prism made from a single crystal of rock-salt (sodium chloride) which becomes opaque at wavelengths longer than about 15 μm ; this spectral region became known as the rock-salt region.



Naaval ver Choranam 30.10.12.pk

3422.2 3.1 2929.2 26.8 2368.6 83.6 2345.6 87.2 1618.0 26.1

1449.2 48.9 1320.4 39.8 1235.0 45.8 1107.8 47.6 1036.5 40.9 654.8

Comment: 654-alkyl groups or C-H vibrations, 1107-C=C, C-O-C stretching vibrations, 1618-N-H or C=C or C=C , 3422- broad band is due to O-H functional group, 2929-alkanes like methyl or methylene groups, 1449 and 1320 due to alkanes or C-H stretching vibration and O-H bending vibration , 1107- aldehyde C-H stretching, 1235 is due C-O stretching frequency. 2368, 2345- is due.

4.3 CLINICAL ASSESSMENT

NAVAL VER CHOORANAM

CLINICAL ASSESSMENT

A clinical trial on the hypoglycemic activity of Naavalver Chooranam in treating Madhumegam was carried out at the Govt.Siddha Medical College Hospital, Palayamkottai.

40 Cases with clinical signs and symptoms of Madhumegam at both sexes with age ranging from 30-80 years are selected and treated under the guidance at the Head of the Department, Post-Graduate Department of Gunapadam, Govt.Siddha Medical College, Palayamkottai. 30 cases were treated as out patients and 10 cases were treated as inpatients.

The patients were selected as Madhumegam according to the following including and excluding criteria.

Criteria for Case Selection.

Inclusion Criteria:

1. Polyuria
2. Polyphagia
3. Poly dipsia
4. Nocturia
5. Tiredness and general weakness
6. Giddiness
7. Pruritus
8. Numbness and Burning Sensation in the soles.
9. Increased Blood Sugar levels.
10. Presence of Urine Sugar.
11. Positive Family History.

Exclusion Criteria:

1. Early onset of Diabetes Mellitus
2. Iatrogenic Diabetes – Corticosteroids and Thiazide diuretics
3. Patients having hyperglycemia due to hormonal disorder like Acromegaly, Cushing's Syndrome, Hyper Thyroidism etc.
4. Patients having diabetes with coronary Heart disease and dehydrated with dry skin.
5. Patients with hepatobiliary disease, chronic active hepatitis, HBV infection, Cholecystitis and Gall Stone disease.
6. Pancreatic Diabetes – Pancreatic Carcinoma, Haemochromatosis, Diabetic Keto Acidosis.

Clinical Pathological Examination:

Blood Test:

- HbA₁C
- Fasting blood sugar.
- Post prandial blood sugar.
- Urea
- Lipid Profile
- ESR/TC, DC
- Hb

Urine Analysis:

- Albumin
- Sugar Fasting and Post prandial
- Deposits.

Drug:

The Patients were orally administered Naavalver Chooranam 1gm with hot water twice a day before meals.

Pattern of Study:

Every Month fasting and post prandial blood sugar carried out before and after treatment. In the case of out-patients urine sugar (Post Prandial) were estimated every week and fasting and post prandial Blood sugar estimation was done on every month. In case of In-patients urine sugar was done on every 5 days. Patients were strictly instructed to follow the below instructions given.

1. Not to take any other anti-diabetic drug of any other system whether indigenous or modern, when they are on trial.
2. Incidental ailments are treated with appropriate Siddha Medicine.
3. Advised to attend Out patients department and collect medicine every week and Urine examination and Blood Sugar estimation for every fifteen days.
4. Advised to follow the diabetic regimen given to them

Line of Treatment.

1 gm of Naavalver Chooranam two times with water Before food.

Route of administration

Oral route.

DIABETIC DIETIC REGIMEN

Obese patients must be advised to reduce weight. On the other hand, lean and thin diabetics should take a weight gaining diet. The total calories are generally divided as follows. Protein Calories 10-20% and carbohydrate calories 70-80%. Sugar and sugar containing foods must be avoided. Most of the carbohydrates derived from starchy foods must be avoided. The total daily intake should be divided into three meals and two snacks. Excess eating and fasting must be avoided. Diet helps to achieve quick and good control of diabetes.

Diet Schedule

அதிகாலை:

சர்க்கரையில்லாத தேநீர்	-	1 கப்(அ)
சர்க்கரையில்லாத காபி	-	1 கப்(அ)
சர்க்கரையில்லாத மல்லி தேநீர்	-	1கப்

காலை உணவு:

கேழ்வரகு உப்புமா	-	1கப்(அ)
கோதுமை அடை	-	2
பச்சைக் காய்கறி சூப்	-	1கப்
முளைவிட்ட தானிய வகை	-	1கப்
பழச்சாறு/கீரைச்சாறு	-	1கப்

இரண்டு மணி நேரம் கழித்து 11.00 மணியளவில் கீரை சூப், காய்கறி சூப், மோர், எலுமிச்சம்பழச்சாறு, நெல்லிக்காய் சாறு இவைகளில் ஏதாவதொன்றை 100மி.லி. அருந்தலாம்.

மதிய உணவு:

சமைத்த காய்கறி	-	2கப்
சமைத்த கீரை	-	1கப்

புழுங்கலரிசி / சம்பா அரிசி -1கப் (அ)
கோதுமை சாதம் - 1கப்

மாலை உணவு:

முளை விட்ட தானிய வகை - 1கப்

வெங்காயம் நறுக்கியது - 1கப்

சீரகத்தூள் - தேவையான அளவு உப்பு சேர்த்து கொள்ளலாம்.

காய்கறி சூப் - 1கப்

இரவு உணவு:

கோதுமை தோசை - 2(அ)

சப்பாத்தி - 2(அ)

கேழ்வரகு தோசை - 2கப்(அ)

கோதுமை உப்புமா - 2கப்

இவற்றில் ஏதாவது ஒன்றை 7.30 மணிக்கு சாப்பிட வேண்டும்.

சில குறிப்புகள்:

1. சமச்சீரான உணவு வகைகளை உட்கொள்ள வேண்டும்.
2. சமையலுக்கு நல்லெண்ணெய் அல்லது சூரியகாந்தி எண்ணெய் மட்டும் உபயோகிக்கவும்.
3. தண்ணீர் அதிகமாக குடிக்க வேண்டும். புளிப்பு வகை உணவு, தயிர் தவிர்க்கவும்.
4. உயர் ரத்த அழுத்தம், இருதய நோய், சிறுநீரக பாதிப்பு இருந்தால் உப்பைக் குறைக்கவும்.
5. மாலையில் சுமார் 2கி.மீ. மித வேகமாக நடக்கவும். எளிய உடற்பயிற்சிகள் செய்யவும்.
6. காலை, மாலை தியானம் செய்யவும்.

உடற்கட்டுகள் ஏழும் வன்மை அடையும் உணவை அளவிட்டுக் கொடுத்தல் வேண்டும். அன்றியும் சிறுநீரை அதிகப்படுத்தும் உணவுப் பொருட்களைத் தவிர்த்தல் வேண்டும்.

செரிப்புத் தன்மை நன்றாய் இருக்கும் போது கோதுமை, சம்பாகோதுமை, கேழ்வரகு இவைகளால் ஆக்கிய சோறு அல்லது மாப்பண்டங்களும், கறிவகையில் ஆட்டுக்கறி, காடை, கௌதாரி, முதலியவைகளும் காய்கறிகளில் கத்தரிபிஞ்சு, அவரைப் பிஞ்சு, முருங்கைப்பிஞ்சு, நெய், பால், தயிர், மோர் போன்றவைகளும் கொள்ளலாம்.

சிறுநீர் எரிச்சல் இருக்கும்போது வெண்டைக்காய், பீர்க்கங்காய், புடலங்காய் போன்றவையும் கழிச்சல் உள்ள போது சுண்டைக்காய், அத்தி இளம் பிஞ்சு, மாம்பருப்பு போன்றவையும் நீர் அளவு கடந்து ஒரு கடினப்பட்டுள்ள போது தாளிக்கீரை, அறுநீரை, முருங்கைக்கீரை, முருங்கைப்பூ, ஆவாரம்பூ போன்றனவும் கொள்ளலாம்.

உடல் மிகுந்த மெலிந்த நிலையில் பெருங்கழிச்சல் உண்டாகும். அப்போது இருமுறை வடித்த அரிசிக்கஞ்சி, வால்கோதுமையை அரைத்து நீரில் வடித்துக் காய்ச்சிய கஞ்சி, அவ்வாறே செய்த வாதுமைப் பருப்புக் கஞ்சி இவைகளில் சிறிது பால் கூட்டிக் கொடுத்தல் வேண்டும்.

Out of 40 cases administered with Naavalver Chooranum, 26 Cases 65% showed good response of signs and symptoms, 4 cases 10% showed fair response and 10 cases 25% showed poor response.

For the I.P. cases at the time of discharge all the patients were strictly advised to attend the outpatient department for further follow up studies.

The clinical assessments are given in the form of tabular column as follows.

T**ABULATIONS SHOWING AGE AND SEX**

S.No	AGE GROUP	NO.OF PATIENTS	SEX	
			MALE	FEMALE
1	30-39	6	5	1
2	40-49	16	8	8
3	50-59	6	2	4
4	60-69	10	6	4
5	70-79	2	2	-
		40	23	17

TABLE ILLUSTRATING THE PROGNOSIS

S.NO	PROGNOSIS	NO.OF PATIENTS	PERCENTAGE
1	Good	26	65%
2	Fair	4	10%
3	Poor	10	25%
	TOTAL	40	100%

4.4 BIO STATISTICAL ANALYSIS

NAAVAL VER CHOORANAM

BIO STATISTICAL ANALYSIS

Drug

Naaval Ver Chooranam (for Madhu Megam)

Description of the clinical trials

The clinical trials were described according to their age and gender.

Table – 1

Gender wise percentage distribution of ages.

Age Group (Years)	Male		Female		Total	
	No	%	No	%	No	%
30-39	5	21.7	1	4.4	6	15.0
40-49	8	34.7	8	34.8	16	40.0
50-59	2	8.7	4	17.4	6	15.0
60-69	6	26.2	4	17.4	10	25.0
70-79	2	8.7	-	-	2	5.0
Total	23	100.0	17	100.00	40	100.0

The above table – 1 describes the gender wise age distribution with percentage of the group. The male participation of the study was 57% and the female participation of the study was 43%.

Table – 2**Comparison of male and female according to their age composition.**

Sex	Age (years)		Difference of Means	d.f	Significance
	Mean	S.D.			
Male	55.6	11.8	0.8	38	p>0.05
Female	54.8	8.8			

The above comparison in respect of age between the male and female shown in the above table – 2 reveals that the mean age of males was 55.6 ± 11.8 years and the name of the female was 54.8 ± 8.8 years. The age difference in between the means was 0.8 years and the same was not statistically significant ($p > 0.05$).

Assessment of Blood Glucose Level:

The blood glucose levels of the study samples were assessed in two occasions viz fasting and post prandial between the before and after treatments follows.

Table – 3**Assessment of Blood Glucose Level before and after treatment**

Blood Glucose Level (mg/dl)	Fasting				Post Prandial			
	Before		After		Before		After	
	No	%	No	%	No	%	No	%
70-110	2	5	24	6.0	-	-	-	-
110-140	6	15.0	10	25.0	-	-	6	15.00
140 and above	32	80.0	6	15.0	40	100.0	34	85.00
Total	40	100.0	40	100.0	40	100.0	40	100.0

The blood glucose levels of study subjects were assessed in the above table-3 The fasting glucose level before treatment above the normal was 38 (95%) patients. Almost all the patients were above normal. After treatment, among the 40 patients, 24 (60%) had normal blood glucose level (70-110mg/dl). The remaining 16 (40%) patients had above the normal of 110 mg / dl and above. Regarding the post prandial blood glucose level, all the patients, blood glucose levels were above normal (above 140mg/dl) before treatment. After treatment among the 40 patients, (15.0%) had normal blood glucose level (110-140 mg/dl). The remaining patients 34(85.0%) had their blood glucose level above the normal 140 mg/ dl.

Effectiveness of the Drug:-

The effectiveness of the drug was analysed and interpreted by considering the before and after Fasting and post prandial blood glucose level. The weights of the patients were also considered in this regard.

Table – 4

Comparison of before and after treatment of blood glucose level and weight

Variables	Before		After		Difference		‘t’	d.f	Significance
	Mean	S.D	Mean	S.D	Mean	S.D			
Fasting (mg/dl)	174.0	32.2	106.0	26.3	68.0	37.4	11.480	38	p<.002
Post Prandial (mg/dl)	256.5	45.4	172.0	31.4	84.5	42.4	12.47	38	p<.002
Weight (kg.)	66.0	8.8	65.8	8.6	0.2	1.8	0.980	38	p>0.04

The above table – 4 compares the before and after fasting blood glucose level and p.p.blood glucose level for assessing the effectiveness of the drug. The mean fasting blood glucose level before the treatments was 174.0 ± 32.2 mg/ dl and the same of the after treatment was 106.0 ± 26.3 mg/dl. The reduction of the level was 68.0 ± 37.4 mg/ dl. Similarly, the post prandial glucose level was 256.5 ± 45.4 and the same of the after treatment was 172.0 ± 31.4 . The reduction of the post prandial was 84.5 ± 42.4 mg/dl. In both cases, the reductions were statistically very highly significant ($p < 0.002$.) The weight before treatment was 66.0 ± 8.8 and the same of after treatment was 65.8 ± 8.6 kg. The reduction of weight was not statistically significant ($p > 0.04$).

Response of the drug:-

By considering all and other factors, which were responsible but managing the madhumeagam, the response of the drug was graded as good, fair and poor as follows. **Table – 5**

Response of the drug

Sl. No.	Response	No. of Persons	Percentage
1	Good	26	65.0%
2	Fair	4	10.0%
3	Poor	10	25.0%
	Total	40	100%

The table – 5 shows the response of the drugs. Among the 40 patients, 26 (65%) patients had good response. The remains 4 (10%) and 10(25%) had fair and poor response respectively. The good response was the reduction of fasting and post prandial blood glucose level to the normal after treatment.

The clinical trials were 57% of males and 43% females. In respect of their age they were not statistically significantly differenced ($p>0.05$). That mean both genders were equal in respect of their age.

After the treatment 60% of the subjects had attained normal glucose level of fasting and 17.2% of then had attained the normal level of post prandial. However, the drug was effective in reduction of the level of blood glucose level after treatment. There was not significant reductions of the weights were observed. The good response of the drug was 65% and poor response was 25%. The fair response was 10%.

5. RESULTS AND DISCUSSION

NAAVAL V ER CHOORANAM

RESULTS AND DISCUSSION

In this dissertation work **Naaval ver chooranam** is tried to show its efficacy in treating Madhumegam (Diabetis Mellitus)

According to Siddha concepts, the diseases are mostly due to irregularity in the ratio of 'Mukcuttram'. In this disease Madhumegam the basic abnormality is dearrangement in KAPHA kutram and then it affects the other two kutram Vaatha and Pitha. These changes affects the Abanavayu (Keel Nokkukkal) and seven udal Thathukkal and gradually leads to further destruction of the human system.

The drug Naaval ver chooranam have

Taste (Suvai)	- Astringent (Thuvarppu)
Potency (Thanmai)	- Coolent (Thatpam)
Bio-Transformation (Pirivu)	- Pungent (Karppu)

துவர்ப்பின் செய்கை

குருதி சுத்தியாகும்

கொடிய பித்தம் போக்கும்

பொழுதுப் புண்ணை யாற்றும்

பொல்லா வையம் மாற்றும்

குளிர்ந்த துவர்ப்பின் வேலை”

The above poem shows the action of Astringent (Thuvarppu) which controls the excessive elimination of fluid from the body. The role of astringent taste brings down the Kapam, humour in normal state.

When the important kutram “kapha” is controlled, remaining kutrams and vayus are also regularized and it controls the glycosuria.

The above Gunapadam explanation of the drug shows the hypoglycaemic action which was supported by pharmacological, Biochemical departments and clinical studies.

A elaborate discussion of the drug Naavalver chooranam in chemical, Botanical, Gunapadam aspects were discussed.

Bio chemical analysis shows the presence of Sulphate, Ferrous Iron, Tannin, Unsaturated compound and Reducing sugar. The presents of tannic acid has an antidiabetic activity (Javan at mardi et al). The presents of ferrous iron improves the haemoglobin level in most of the patients.

The **pharmacological activity** shows that the drug has got significant hypoglycaemic action when compound with standard.

The **SEM** analysis of the drug signifies good nano particle size (45.17nm) that indicates absorption was very good and pharmaco therapeutic value was good standard.

The **FTIR** data reports the presence of functional group related to Naavalver chooranam.

According to **physio chemical analysis**, acid insoluble ash is only 2.59% that indicates trial drug will digest completely in human GIT.

The **anti microbial test** proves that the drug has got moderate sensitivity against E.coli.

It is believed that the drug Naavalver chooranam not only controls the madhumegam but also improves the general health.

The signs and symptoms which is seen before the treatment reduced well in most of the patients.

During the clinical trial the patients showed no adverse reactions.

Bio-statistical analysis shows that Naavalver chooranam was effectively controlling the disease Madhumegam.

6. SUMMARY

NAAVAL VER CHOORANAM

SUMMARY

- The drug **Naavalver chooranam** was selected for this dissertation taken from the text Gunapadam Mooligai Vaguppu P.No.571 written by Murugesu Muthaliyar.
- The Root bark of Naaval was taken in Tirunelveli and cleaned, dried in shadow, Nicely powdered, Purified and preserved.
- A review of literature about the drug and their significance in medicine were done.
- Detailed information about the drug was gathered from various sources like abstract journals and Internet.
- **Bio-chemical analysis** of the drug reveals the presence of sulphate, Ferrous Iron, Unsaturated compound and Reducing sugars.
- The **pharmacological analysis** shows that the drug possess significant hypoglycaemic effect.
- **Bacterial sensitivity tests** shows that the drug showed moderate sensitivity against E.coli.
- In the clinical trials out of 40 patients 65% of patients showed good response, 10% of patients showed fair response and 25% of patients showed poor response.
- The **Investigation reports** shows that the drug lowers the blood sugar level and urine sugar level.
- No adverse reactions were noted during and after treatment.
- **Bio statistical analysis** also revealed that this drug has got significant effect in treating Madhumegam.

18. CONCLUSION

NAVAL VER CHOORANAM

CONCLUSION

It is concluded that the trial drug **Naaval ver chooranam** is found to be an very effective drug for **Madhumegam** without producing any side effects.

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

1.Name : Mr. G. Jeyasingh		Age/Sex : 38/Male		O.P.No. :42105		From :06/06/2012		To :25/07/2012		No.of Days treated : 49 days			
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam							
Complaints of		INVESTIGATION											
		Before treatment				Wt. 63kg		After treatment				Wt. 63kg	
Polyuria, Ploydypsia, Nocturia, known case of NIDDM since 1 year.		B.P. : 140/100 mmhg						B.P. : 140/90 mmhg					
		Blood :		TC – 9600 cells/cumm		Urine :		Blood :		TC - 9800cells/cumm		Urine :	
		Blood sugar		DC - P – 68%		Alb - Nil		Blood sugar		DC - P - 98%		Alb - Nil	
		Fasting - 180 mgs%		L – 32%		Sug -		Fasting - 92 mgs%		L – 28%		Sug -	
Post prandial - 352 mgs%		E – 5%		F - +		Post prandial - 170 mgs%		E – 4%		F - Nil			
Serum cholesterol 280 mgs%		ESR ½ hr - 16 mm		PP -++++		Serum cholesterol -190 mgs%		ESR ½ hr - 7 mm		PP - Nil			
Blood Urea - - mgs%		1 hr - 33 mm		Dep –		Blood Urea - - mgs%		1 hr - 16 mm		Dep - NAD			
Hb A ₁ C -8%		Hb - 76%		Occult pus cells		Hb A ₁ C-6%		Hb – 70%					
		Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
		++++	++++	+++	++	+	Nil	Nil	-	-	-		

2.Name : Mr. Subramanian		Age/Sex : 76 /Male		O.P.No. : 42096		From :06/06/2012		To :25/07/2012		No.of Days treated : 49 days			
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam							
Complaints of		INVESTIGATION											
		Before treatment				Wt. 72 kg		After treatment				Wt. 70 kg	
Polyuria, Polydypsia, Nocturia, since 2 months known case of NIDDM since 6 months.		B.P. : 130/90 mmhg						B.P. : 130/90mmhg					
		Blood :		TC – 9800 cells/cumm		Urine :		Blood :		TC – 10000 cells/cumm		Urine :	
		Blood sugar		DC - P – 69%		Alb - Nil		Blood sugar		DC - P – 74%		Alb - Nil	
		Fasting – 200 mgs%		L – 32%		Sug -		Fasting - 80 mgs%		L – 22%		Sug -	
Post prandial – 252 mgs%		E – 3%		F - +		Post prandial - 172 mgs%		E – 3%		F - Nil			
Serum cholesterol – 158 mgs%		ESR ½ hr - 22 mm		PP - +++		Serum cholesterol - - mgs%		ESR ½ hr - 16 mm		PP - Nil			
Blood Urea - - mgs%		1 hr - 45 mm		Dep - 5-10		Blood Urea - - mgs%		1 hr - 29 mm		Dep - NAD			
Hb A ₁ C :8%		Hb – 71%		Pus cells		Hb A ₁ C – 5.6%		Hb – 76%					
		Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
		+++	++	+	Nil	Nil	Nil	Nil	-	-	-		

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

3.Name : Mr. Malaiappan	Age/Sex : 55/Male	O.P.No. : 42151	From :06/06/2012	To :25/07/2012	No.of Days treated : 49 days							
Drug : Naaval Ver Chooranam – 1gm tds with water				Diagnosis : Madhumegam								
Complaints of Polyuria, polydypsia, Burning sensation food since 2 months known case of NIDDM since 4 years.	INVESTIGATION											
	Before treatment				Wt. 62 kg		After treatment			Wt. 63 kg		
	B.P. : 130/90 mmhg						B.P. : mmhg					
	Blood : Blood sugar Fasting - 140mgs% Post prandial - 224 mgs% Serum cholesterol 240 mgs% Blood Urea - - mgs% Hb A ₁ C -		TC - 10000 cells/cumm DC - P – 65% L – 30% E – 4% ESR ½ hr - 22 mm 1 hr - 40 mm Hb – 70%		Urine : Alb - Nil Sug F - + PP -++++ Dep – 1-2 Pus cells		Blood : Blood sugar Fasting - 120 mgs% Post prandial – 202 mgs% Serum cholesterol 200 mgs% Blood Urea - - mgs% Hb A ₁ C			TC - 10100 cells/cumm DC - P – 72% L – 28% E – 3% ESR ½ hr – 16 mm 1 hr - 32 mm Hb – 72%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep -NAD
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		++++	+++	++	+	+	Nil	Nil	-	-	-	

4.Name : Mr. Kollappan	Age/Sex : 45/Male	O.P.No. :45486	From :18/06/2012	To :15/08/2012	No.of Days treated : 60 days							
Drug : Naaval Ver Chooranam – 1gm tds with water				Diagnosis : Madhumegam								
Complaints of Pain in the right knee Joint, polyuria, polydypsia, known case of NIDDM since 6 years.	INVESTIGATION											
	Before treatment				Wt. 74 kg		After treatment			Wt. 70 kg		
	B.P. : 140/80 mmhg						B.P. : 130/80 mmhg					
	Blood : Blood sugar Fasting - 98mgs% Post prandial – 252 mgs% Serum cholesterol -156 mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9000 cells/cumm DC - P – 65% L – 36% E – 4% ESR ½ hr – 38 mm 1 hr - 80 mm Hb – 74%		Urine : Alb - Nil Sug F - + PP - +++ Dep – Occult pus cells		Blood : Blood sugar Fasting - 70 mgs% Post prandial - 170 mgs% Serum cholesterol 160 mgs% Blood Urea - - mgs% Hb A ₁ C			TC - 9200 cells/cumm DC - P – 68% L – 32% E – 3% ESR ½ hr - 20 mm 1 hr - 40 mm Hb – 76%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep- NAD
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		++++	++++	+++	++	+	Nil	Nil	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

5.Name : Mr.Arjunan	Age/Sex : 47/Male	O.P.No. : 50300	From :04/07/2012	To :22/08/2012	No.of Days treated : 49 days							
Drug : Naaval Ver Chooranam – 1gm tds with water					Diagnosis : Madhumegam							
polyuria, polydypsia, polyphagia, general tiredness, since 8 years.	INVESTIGATION											
	Before treatment				Wt. 58 kg		After treatment				Wt. 55kg	
	B.P. : 120/90 mmhg						B.P. : 120/90 mmhg					
	Blood : Blood sugar Fasting - 130 mgs% Post prandial – 210 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -		TC – 9400 cells/cumm DC - P – 64% L – 36% E – 4% ESR ½ hr - 16 mm 1 hr - 32 mm Hb – 72%		Urine : Alb - Nil Sug F - + PP - +++ Dep - NAD		Blood : Blood sugar Fasting - 82 mgs% Post prandial - 184 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC - 9200 cells/cumm DC - P – 65% L – 34% E – 3% ESR ½ hr - 12 mm 1 hr - 22 mm Hb – 70%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	+	Nil	-	-	-	-	-	-	

6.Name : Mrs. Kirshnammal	Age/Sex : 65/Female	O.P.No. : 50307	From :04/07/2012	To :22/08/2012	No.of Days treated : 49 days							
Drug : Naaval Ver Chooranam – 1gm tds with water					Diagnosis : Madhumegam							
Complaints of Body pain, numbness in both limbs, polydypsia, polyuria, since 2 weeks known case of NIDDM since 5 years.	INVESTIGATION											
	Before treatment				Wt. 67 kg		After treatment				Wt. 65 kg	
	B.P. : mmhg						B.P. : mmhg					
	Blood : Blood sugar Fasting - 120 mgs% Post prandial – 248 mgs% Serum cholesterol 210mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9200 cells/cumm DC - P – 67% L – 32% E – 3% ESR ½ hr - 16 mm 1 hr - 22 mm Hb – 70%		Urine : Alb - Nil Sug F - + PP - +++ Dep - NAD		Blood : Blood sugar Fasting - 108 mgs% Post prandial – 158 mgs% Serum cholesterol 180 mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9300 cells/cumm DC - P – 64% L – 32% E – 7% ESR ½ hr - 8 mm 1 hr - 12 mm Hb – 72%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep – NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	+	+	Nil	Nil	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

7.Name :Mrs. K. Lilly		Age/Sex : 33/ Female		O.P.No. : 54300		From :18/07/2012		To :06/09/2012		No.of Days treated : 49 days			
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam							
Complaints of Polyuria, polydypsia, nocturia, known case of NIDDM since 1 years.	INVESTIGATION												
	Before treatment				Wt. 74 kg			After treatment				Wt. 73kg	
	B.P. : 140/90 mmhg							B.P. : 130/90 mmhg					
	Blood : Blood sugar Fasting – 130 mgs% Post prandial – 210 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -		TC – 9600 cells/cumm DC - P – 64% L -32% E – 4% ESR ½ hr - 16 mm 1 hr - 32 mm Hb – 68%		Urine : Alb - Nil Sug F - + PP - +++ Dep - NAD		Blood : Blood sugar Fasting – 82 mgs% Post prandial - 180 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9000 cells/cumm DC - P – 68% L – 34% E – 3% ESR ½ hr - 8 mm 1 hr - 15mm Hb – 72%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep - NAD		
	Response : Good Response												
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
		+++	++	+	-	-	-	-	-	-	-		

8.Name : Mr. Kasilingam		Age/Sex : 60/Male		O.P.No. :54299		From :18/07/2012		To :06/09/2012		No.of Days treated : 49 days			
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam							
Complaints of Numbness in both limbs, body pain, polydypsia, Polyuria, known case of NIDDM since 2 years.	INVESTIGATION												
	Before treatment				Wt. 59 kg			After treatment				Wt. 57 kg	
	B.P. : 140/80 mmhg							B.P. : 130/80 mmhg					
	Blood : Blood sugar Fasting - 120 mgs% Post prandial – 300 mgs% Serum cholesterol - - mgs% Blood Urea - 20 mgs% Hb A ₁ C		TC – 9500 cells/cumm DC - P – 62% L – 32% E – 4% ESR ½ hr - 7 mm 1 hr - 15 mm Hb – 71%		Urine : Alb - Nil Sug F - + PP -+++ Dep - NAD		Blood : Blood sugar Fasting – 100 mgs% Post prandial – 190 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC - 9600 cells/cumm DC - P – 63% L – 32% E – 3% ESR ½ hr - 4 mm 1 hr - 7 mm Hb – 69%		Urine : Alb – Nil Sug F - Nil PP -Nil Dep – NAD		
	Response : Good Response												
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
		+++	++	+	Nil	-	-	-	-	-	-		

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

9.Name : Mr. Ramaiyah		Age/Sex : 35/Male		O.P.No. : 58383		From : 01/08/2012		To : 20/09/2012		No.of Days treated : 51 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, numbness in both limbs since 1 year, polyuria, polydypsia, known case of NIDDM Since 3 years	INVESTIGATION											
	Before treatment				Wt. 63 kg		After treatment				Wt. 60 kg	
	B.P. : 130/90 mmhg						B.P. : 120/80 mmhg					
	Blood : Blood sugar Fasting – 120 mgs% Post prandial - 248 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -		TC - 9600 cells/cumm DC - P – 62% L – 35% E – 2% ESR ½ hr - 7 mm 1 hr - 14 mm Hb – 72%		Urine : Alb - Nil Sug F - + PP -++++ Dep – NAD		Blood : Blood sugar Fasting - 90 mgs% Post prandial – 160 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9400 ells/cumm DC - P – 60% L – 32% E – 2% ESR ½ hr - 8 mm 1 hr - 16 mm Hb – 70%		Urine : Alb - Nil Sug F -Nil PP -Nil Dep – NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	Nil	Nil	-	-	-	-	-	

10.Name : Mrs. Malathi		Age/Sex : 45/Female		O.P.No. : 62732		From : 15/08/2012		To : 27/09/2012		No.of Days treated : 43 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, numbness in both limbs, polyuria, polydypsia, since 3 months known case of NIDDM Since 3 years	INVESTIGATION											
	Before treatment				Wt. 55 kg		After treatment				Wt. 52 kg	
	B.P. : 130/90 mmhg						B.P. : 130/80 mmhg					
	Blood : Blood sugar Fasting - 130 mgs% Post prandial - 225 mgs% Serum cholesterol 240 mgs% Blood Urea - - mgs% Hb A ₁ C		TC - 9000cells/cumm DC - P – 48% L – 40% E – 7% ESR ½ hr - 18 mm 1 hr - 40 mm Hb – 78%		Urine : Alb - Nil Sug F - ++ PP - +++ Dep - NAD		Blood : Blood sugar Fasting - 100 mgs% Post prandial - 130 mgs% Serum cholesterol 200 mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9200 cells/cumm DC - P – 52% L – 40% E – 3% ESR ½ hr - 10 mm 1 hr - 15 mm Hb – 80%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	Nil	Nil-	-	-	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

13.Name : Mr. Rathnavel	Age/Sex : 35/Male	O.P.No. : 68954	From : 05/09/2012	To : 17/10/2012	No.of Days treated : 42 days							
Drug : Naaval Ver Chooranam – 1gm tds with water				Diagnosis : Madhumegam								
Complaints of Body pain, pain in the left knee joint, polyuria, polydypsia, since 3 months known case of NIDDM Since 4 years	INVESTIGATION											
	Before treatment			Wt. 56 kg			After treatment			Wt. 52 kg		
	B.P. : 120/80mmhg						B.P. : 120/80mmhg					
	Blood : Blood sugar Fasting - 150 mgs% Post prandial - 280 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -	TC – 9800 cells/cumm DC - P – 65% L - 30% E – 2% ESR ½ hr - 18 mm 1 hr - 38 mm Hb – 70%	Urine : Alb - Nil Sug F - + PP - +++ Dep - 1-2 Pus cells	Blood : Blood sugar Fasting - 100 mgs% Post prandial – 150 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C	TC – 10000 cells/cumm DC - P – 74% L – 22% E – 3% ESR ½ hr - 15 mm 1 hr - 20 mm Hb – 72%	Urine : Alb - Nil Sug F - Nil PP - Nil Dep - NAD	Response : Good Response					
	No. of weeks after Urine sugar – PP	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
	+++	++	+	Nil	-	-	-	-	-	-		

14.Name : Mr. Subramanian	Age/Sex : 45/Male	O.P.No. : 68953	From : 05/09/2012	To : 17/10/2012	No.of Days treated : 42 days							
Drug : Naaval Ver Chooranam – 1gm tds with water				Diagnosis : Madhumegam								
Complaints of Body pain, pain in the left knee joint, polyuria, polydypsia, since 1 year known case of NIDDM Since 3 years	INVESTIGATION											
	Before treatment			Wt. 70 kg			After treatment			Wt. 67kg		
	B.P. : 140/90mmhg						B.P. : 140/90mmhg					
	Blood : Blood sugar Fasting - 160 mgs% Post prandial - 258 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C	TC – 9400 cells/cumm DC - P – 62% L – 32% E – 4 % ESR ½ hr - 34 mm 1 hr - 64 mm Hb – 72%	Urine : Alb - Nil Sug F - + PP - +++ Dep - NAD	Blood : Blood sugar Fasting – 93 mgs% Post prandial - 132 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C	TC – 9200 cells/cumm DC - P – 68% L – 28% E – 2% ESR ½ hr - 22 mm 1 hr - 47 mm Hb – 74%	Urine : Alb - Nil Sug F - Nil PP - Nil Dep – NAD	Response : Good Response					
	No. of weeks after Urine sugar – PP	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
	+++	++	+	Nil	-	-	-	-	-	-		

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

15.Name : Mrs. Veni		Age/Sex : 45/Female		O.P.No. : 75775		From : 25/09/2012		To : 06/10/2012		No.of Days treated : 42 days					
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam									
Complaints of		INVESTIGATION													
		Before treatment				Wt. 72kg				After treatment				Wt. 73kg	
Body pain, numbness in both limbs, polyuria, polydypsia, since 3 months known case of NIDDM since 4 years.		B.P. : 150/90mmhg				B.P. : 140/90mmhg									
		Blood :		TC – 9600 cells/cumm		Urine :		Blood :		TC – 9600 cells/cumm		Urine :			
		Blood sugar		DC - P – 62%		Alb - Nil		Blood sugar		DC - P – 66%		Alb - Nil			
		Fasting - 140mgs%		L – 30%		Sug		Fasting - 100 mgs%		L – 42%		Sug			
		Post prandial - 278 mgs%		E – 8%		F - ++		Post prandial - 202 mgs%		E – 5%		F - Nil			
		Serum cholesterol - - mgs%		ESR ½ hr - 4 mm		PP -+++		Serum cholesterol - - mgs%		ESR ½ hr - 4 mm		PP - Nil			
		Blood Urea - - mgs%		1 hr - 10mm		Dep -		Blood Urea - - mgs%		1 hr - 7 mm		Dep – NAD			
		Hb A ₁ C -		Hb – 78%		NAD		Hb A ₁ C		Hb – 79%					
		Response : Fair Response													
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th				
		+++	++	+	+	-	-	-	-	-	-				

16.Name : Mr. Venugopal		Age/Sex : 59/Male		O.P.No. : 75774		From : 25/09/2012		To : 06/10/2012		No.of Days treated : 42 days					
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam									
Complaints of		INVESTIGATION													
		Before treatment				Wt. 58 kg				After treatment				Wt. 57 kg	
Body pain, numbness in both limbs, polyuria, polydypsia, since 1 months known case of NIDDM since 3 years.		B.P. : 120/70mmhg				B.P. : 120/80mmhg									
		Blood :		TC – 9600 cells/cumm		Urine :		Blood :		TC – 9800 cells/cumm		Urine :			
		Blood sugar		DC - P – 64%		Alb - Nil		Blood sugar		DC - P – 64%		Alb – Nil			
		Fasting - 160 mgs%		L – 36%		Sug		Fasting - 90 mgs%		L – 34%		Sug			
		Post prandial – 210 mgs%		E – 4%		F - Nil		Post prandial – 120 mgs%		E – 4%		F - Nil			
		Serum cholesterol - - mgs%		ESR ½ hr - 25 mm		PP - +		Serum cholesterol - - mgs%		ESR ½ hr - 10 mm		PP - Nil			
		Blood Urea - 17 mgs%		1 hr - 55 mm		Dep -NAD		Blood Urea – 20 mgs%		1 hr - 15 mm		Dep – NAD			
		Hb A ₁ C-9%		Hb – 75%				Hb A ₁ C-6%		Hb – 76%					
		Response : Good Response													
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th				
		+	+	Nil	-	-	-	-	-	-	-				

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

19.Name : Mr. Venkatas		Age/Sex : 42/Male		O.P.No. : 82709		From : 17/09/2012		To : 29/12/2012		No.of Days treated : 73 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, polyuria, polydypsia, since 4 months known case of NIDDM since 4 months.	INVESTIGATION											
	Before treatment				Wt. 76 kg		After treatment				Wt. 72kg	
	B.P. : 140/90mmhg						B.P. : 130/90mmhg					
	Blood : Blood sugar Fasting -190 mgs% Post prandial – 269 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -9%		TC – 9400 cells/cumm DC - P – 61% L – 40% E – 4% ESR ½ hr - 50 mm 1 hr - 102 mm Hb – 76%		Urine : Alb - Nil Sug F - ++ PP -++++ Dep - NAD		Blood : Blood sugar Fasting - 78 mgs% Post prandial - 159 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C-5.9%		TC – 9000 cells/cumm DC - P – 54% L – 42% E – 4% ESR ½ hr – 8 mm 1 hr - 15 mm Hb – 72%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	

20.Name : Mrs. Rohini		Age/Sex : 68/Female		O.P.No. : 84393		From : 22/10/2012		To : 05/12/2012		No.of Days treated : 54 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, polyuria, polydypsia, known case of NIDDM since 6 years.	INVESTIGATION											
	Before treatment				Wt. 61 kg		After treatment				Wt. 59kg	
	B.P. : 140/90mmhg						B.P. : 120/80mmhg					
	Blood : Blood sugar Fasting - 140 mgs% Post prandial – 220 mgs% Serum cholesterol - 210mgs% Blood Urea - 25 mgs% Hb A ₁ C-8%		TC – 9700 cells/cumm DC - P – 65% L – 32% E – 3% ESR ½ hr - 20 mm 1 hr - 42 mm Hb – 74%		Urine : Alb - Nil Sug F - + PP -++++ Dep - NAD		Blood : Blood sugar Fasting - 90 mgs% Post prandial – 120 mgs% Serum cholesterol - 200 mgs% Blood Urea - - mgs% Hb A ₁ C-6%		TC – 10000 cells/cumm DC - P – 74% L - 31% E – 3% ESR ½ hr - 13 mm 1 hr - 26 mm Hb – 70%		Urine : Alb - Nil Sug F - Nil PP - Nil Dep -NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	++	++	+	Nil	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

23.Name : Mr.Elango		Age/Sex : 36/Male		O.P.No. :87104		From : 01/11/2012		To : 12/12/2012		No.of Days treated : 42 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Pain in the both knee joint, polyuria, polydypsia, known case of NIDDM since 6 years.	INVESTIGATION											
	Before treatment				Wt. 77 kg		After treatment				Wt. 75 kg	
	B.P. : 140/90mmhg						B.P. : 130/80mmhg					
	Blood : Blood sugar Fasting - 189 mgs% Post prandial - 320 mgs% Serum cholesterol -- mgs% Blood Urea - - mgs% Hb A ₁ C -		TC – 9800 cells/cumm DC - P – 71% L – 41% E – 3% ESR ½ hr – 22 mm 1 hr - 40 mm Hb – 75%		Urine : Alb - Nil Sug F - ++ PP -++++ Dep - NAD		Blood : Blood sugar Fasting – 100 mgs% Post prandial - 230 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9600 cells/cumm DC - P – 67% L – 33% E – 8% ESR ½ hr - 3 mm 1 hr - 7 mm Hb – 77%		Urine : Alb - Nil Sug F - Nil PP - + Dep - NAD	
	Response : Fair Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	+++	++	++	+	-	-	-	-	-	

24.Name : Mr. Manikkam		Age/Sex : 47/Male		O.P.No. : 87105		From : 01/11/2012		To : 12/12/2012		No.of Days treated : 42 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, polyuria, polydypsia, since 4 months known case of NIDDM since 6 years.	INVESTIGATION											
	Before treatment				Wt. 76kg		After treatment				Wt. 75 kg	
	B.P. : 140/90mmhg						B.P. : 130/80mmhg					
	Blood : Blood sugar Fasting - 188mgs% Post prandial - 270 mgs% Serum cholesterol - 222 mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9500 cells/cumm DC - P – 50% L – 41% E – 4% ESR ½ hr - 40mm 1 hr - 78 mm Hb – 69%		Urine : Alb - Nil Sug F - ++ PP -++++ Dep - NAD		Blood : Blood sugar Fasting – 80 mgs% Post prandial - 161mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9400 cells/cumm DC - P – 48% L – 37 % E – 3% ESR ½ hr - 10 mm 1 hr - 20 mm Hb – 71%		Urine : Alb - Nil Sug F - Nil PP -Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	+++	+++	++	+	-	-	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

25.Name : Mrs. Gayathri		Age/Sex : 47/Male		O.P.No. : 89054		From : 06/11/12		To : 19/12/2012		No.of Days treated : 42 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Back ache constipation polyuria, polydypsia, 2 weeks known case of NIDDM since 4 years.	INVESTIGATION											
	Before treatment				Wt. 67kg		After treatment				Wt. 65 kg	
	B.P. : 130/80 mmhg						B.P. : 130/80mmhg					
	Blood : Blood sugar Fasting - 157mgs% Post prandial – 204 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -8%		TC – 9400 cells/cumm DC - P – 64% L – 43% E – 4% ESR ½ hr - 5 mm 1 hr - 11 mm Hb – 69%		Urine : Alb - Nil Sug F - + PP -++ Dep - NAD		Blood : Blood sugar Fasting - 140 mgs% Post prandial - 187 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C-7%		TC – 9500 cells/cumm DC - P – 64% L – 42% E – 3% ESR ½ hr - 4 mm 1 hr - 8 mm Hb – 71%		Urine : Alb - Nil Sug F - Nil PP -+ Dep – NAD	
	Response : Fair Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	++	+	++	-	-	-	-	

26.Name : Mrs. Kamala		Age/Sex : 50/Female		O.P.No. : 89053		From : 06/11/2012		To : 19/12/2012		No.of Days treated : 42 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, joint pain polyuria, polydypsia, known case of NIDDM since 3 years.	INVESTIGATION											
	Before treatment				Wt. 58kg		After treatment				Wt. 57kg	
	B.P. : 120/80mmhg						B.P. : 120/80mmhg					
	Blood : Blood sugar Fasting - 140mgs% Post prandial - 220 mgs% Serum cholesterol - 210mgs% Blood Urea - 25 mgs% Hb A ₁ C		TC – 9800 cells/cumm DC - P – 67% L – 42% E – 3% ESR ½ hr - 20 mm 1 hr - 42 mm Hb – 68%		Urine : Alb - Nil Sug F - + PP -+++ Dep - NAD		Blood : Blood sugar Fasting - 88 mgs% Post prandial - 122 mgs% Serum cholesterol - 198mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9500 cells/cumm DC - P – 65% L – 31% E – 3% ESR ½ hr - 7 mm 1 hr - 15 mm Hb – 71%		Urine : Alb - Nil Sug F - Nil PP -Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		++++	++++	+++	+++	++	+	-	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN OUT PATIENTS

29.Name : Mr. Mani		Age/Sex : 48/Male		O.P.No. : 93757		From : 19/11/2012		To : 19/12/2012		No.of Days treated : 30 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Body pain, numbness in both limbs, polyuria, polydypsia, known case of NIDDM since 2 years.	INVESTIGATION											
	Before treatment				Wt. 65 kg		After treatment				Wt. 63kg	
	B.P. : 140/90mmhg						B.P. : 140/80mmhg					
	Blood : Blood sugar Fasting - 150mgs% Post prandial - 207mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C -		TC – 9300 cells/cumm DC - P – 54% L – 39% E – 4% ESR ½ hr – 6 mm 1 hr - 11 mm Hb – 71%		Urine : Alb – Nil Sug F - ++ PP -++++ Dep - NAD		Blood : Blood sugar Fasting – 110 mgs% Post prandial – 187 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C		TC – 9200 cells/cumm DC - P – 52% L – 42% E – 6% ESR ½ hr -7 mm 1 hr - 14mm Hb – 69%		Urine : Alb - Nil Sug F - Nil PP -+ Dep -NAD	
	Response : Fair Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	++	++	++	+	+	-	-	-	-	

30.Name : Mrs. Amaravathi		Age/Sex : 46 / Female		O.P.No. : 93758		From : 19/11/2012		To : 19/12/12		No.of Days treated : 30 days		
Drug : Naaval Ver Chooranam – 1gm tds with water						Diagnosis : Madhumegam						
Complaints of Pain in the left knee joint since 1 months, polyuria, polydypsia, known case of NIDDM since 5 years.	INVESTIGATION											
	Before treatment				Wt. 69 kg		After treatment				Wt. 70 kg	
	B.P. : mmhg						B.P. : mmhg					
	Blood : Blood sugar Fasting - 170 mgs% Post prandial - 258 mgs% Serum cholesterol - - mgs% Blood Urea - - mgs% Hb A ₁ C-7%		TC – 10000 cells/cumm DC - P – 71% L – 45% E – 5% ESR ½ hr - 31 mm 1 hr - 60 mm Hb – 73%		Urine : Alb - Nil Sug F - ++ PP -++++ Dep - NAD		Blood : Blood sugar Fasting - 90 mgs% Post prandial - 110 mgs% Serum cholesterol - -mgs% Blood Urea - - mgs% Hb A ₁ C-6%		TC – 9900 cells/cumm DC - P – 72% L – 42% E – 4% ESR ½ hr - 8 mm 1 hr - 16 mm Hb – 71%		Urine : Alb - Nil Sug F - Nil PP -Nil Dep - NAD	
	Response : Good Response											
No. of weeks after Urine sugar – PP		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
		+++	+++	+++	+	+	-	-	-	-	-	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mr. Subbiah	Age/Sex	60/M	I.P.No.	2197	DOA	09/07/12	DOD	14/08/12	No.of days treated : 36 days	
Drug : Naaval Ver Chooranam – 1GM TDS with Water					Diagnosis : Madhumugam					
Complaints of Excessive excretion of urine, body pain numbness in both soles, tiredness, back pain history of NIDDM since 1 year.	INVESTIGATIONS									
	Before treatment			Wt. 57kg	After treatment			Wt.58 kg	Response	
	B.P. 140/90 mmHg			B.P. 130/80 mmHg						
	Blood			Urine	Blood			Urine	Good	
Blood Sugar Fasting: 200 mgs% Post Pradial: 250 mgs% Serum Cholestrol: 170 mgs% Blood Urea: 17 mgs% HbA ₁ C		TC: 9000cells/cumm DC:P: 55% L: 40% E: 5% ESR – ½: 7 mm 1 hr: 14 mm Hb: 80%	Alb: Nil Sug: F: + PP: ++ Dep:NAD	Blood Sugar Fasting: 140 mgs% Post Pradial: 170 mgs% Serum Cholestrol: 150 mgs% Blood Urea: 150 mgs% HbA ₁ C		TC: 9200cells/cumm DC:P: 605 L:35% E: 5% ESR – ½: 5 mm 1 hr: 10 mm Hb: 80%	Alb:Nil Sug: F: Nil PP: Nil Dep: NAD			

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mrs. Muthatha	Age/Sex	70/F	I.P.No.	2639	DOA	10/08/12	DOD	19/09/12	No.of days treated : 40 days				
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam					
Complaints of Excessive polyuria, polyphagia, body pain, numbness in both soles, tiredness, back pain history of NIDDM since 3 year.	INVESTIGATIONS												
	Before treatment				Wt.78kg	After treatment				Wt.80kg	Response		
	B.P. 120/80 mmHg					B.P. 130/90 mmHg							
	Blood			Urine		Blood			Urine		Good		
Blood Sugar Fasting: 200 mgs% Post Pradial: 380mgs% Serum Cholestrol:170mgs% Blood Urea:15mgs% HbA ₁ C-8%			TC: 9200 cells/cumm DC:P: 57% L: 35% E: 8% ESR – ½: 10 mm 1 hr: 20 mm Hb: 70%		Alb: Nil Sug: F: ++ PP: +++ Dep:NAD			Blood Sugar Fasting: 110mgs% Post Pradial: 200 mgs% Serum Cholestrol: 160mgs% Blood Urea: 20 mgs% HbA ₁ C-5.3%		TC:8000cells/cumm DC:P:60% L: 35% E: 5% ESR – ½: 7mm 1 hr:14mm Hb: 75%		Alb:Nil Sug: F:Nil PP:+ Dep: NAD	

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mr. Ravappan	Age/Sex	65/M	I.P.No.		DOA	16/08/12	DOD	27/09/12	No.of days treated : 42 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water					Diagnosis : Madhumugam						
Complaints of Excessive excretion of urine, excessive appetite, body pain numbness in both soles, tiredness history of NIDDM since 2 year.	INVESTIGATIONS										
	Before treatment				Wt.72 kg	After treatment				Wt.71kg	Response
	B.P.130/80 mmHg					B.P. 120/80 mmHg					
	Blood			Urine		Blood			Urine		Poor
Blood Sugar Fasting: 140 mgs% Post Pradial: 258mgs% Serum Cholestrol:160mgs% Blood Urea:20 mgs% HbA ₁ C-		TC:9000 cells/cumm DC:P: 64% L: 34% E: 2% ESR – ½: 20 mm 1 hr: 40mm Hb: 75%		Alb: Nil Sug: F: Frace PP: ++ Dep: NAD		Blood Sugar Fasting: 120 mgs% Post Pradial: 230 mgs% Serum Cholestrol: 160mgs% Blood Urea: 28 mgs% HbA ₁ C-		TC: 9100cells/cumm DC:P: 65% L: 34% E: 3% ESR – ½: 10 mm 1 hr: 20 mm Hb: 74%			

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mrs. Chellammal	Age/Sex	58/F	I.P.No.	3284	DOA	27/09/12	DOD	01/11/12	No.of days treated : 35 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive excretion of urine, excessive appetite, body pain numbness in both soles, tiredness history of NIDDM since 5 year.	INVESTIGATIONS										
	Before treatment				Wt. 72 kg	After treatment				Wt.72kg	Response
	B.P. 120/80 mmHg					B.P. 120/80 mmHg					
	Blood			Urine		Blood			Urine		
	Blood Sugar Fasting:160mgs% Post Pradial: 220mgs% Serum Cholestrol:180mgs% Blood Urea:20mgs% HbA ₁ C-9%		TC: 8600cells/cumm DC: P: 58% L: 36% E: 6% ESR – ½: 4 mm 1 hr: 8 mm Hb: 65%		Alb: Nil Sug: F: Nil PP: ++ Dep:NAD		Blood Sugar Fasting:110 mgs% Post Pradial:180mgs% Serum Cholestrol:180 mgs% Blood Urea: 22mgs% HbA ₁ C-6%		TC:8900cells/cumm DC:P: 60% L: 38% E: 2% ESR – ½: 5 mm 1 hr: 10mm Hb: 74%		Good

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mrs. M. Chandra	Age/Sex	55/F	I.P.No.	3475	DOA	08/10/12	DOD	09/11/12	No.of days treated : 32 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive excretion of urine, body pain, numbness in both soles, tiredness , back pain history of NIDDM since 1 year.	INVESTIGATIONS										
	Before treatment				Wt.49 kg	After treatment				Wt.49kg	Response
	B.P.120/80 mmHg					B.P. 120/80 mmHg					
	Blood			Urine		Blood			Urine		Good
Blood Sugar Fasting:183mgs% Post Pradial: 223mgs% Serum Cholestrol: - mgs% Blood Urea: - mgs% HbA ₁ C-9%		TC:9500 cells/cumm DC:P: 66% L: 30% E: 4% ESR – ½: 15 mm 1 hr: 32mm Hb: 75%		Alb: Nil Sug: F: + PP:++ Dep: NAD		Blood Sugar Fasting:130mgs% Post Pradial:160mgs% Serum Cholestrol:- mgs% Blood Urea:- mgs% HbA ₁ C-5.6%		TC:9800cells/cumm DC:P: 68% L: 28% E: 4% ESR – ½: 7 mm 1 hr: 15mm Hb: 78%			

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mrs. Shanmugavadivu	Age/Sex	65/F	I.P.No.	3490	DOA	09/10/12	DOD	09/11/12	No.of days treated : 28 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive appetite Excessive excretion of urine, body pain, numbness in both soles, tiredness , back pain history of NIDDM since 1 year.	INVESTIGATIONS										
	Before treatment				Wt. 69kg	After treatment				Wt. 67kg	Response
	B.P. 130/90 mmHg					B.P. 120/90 mmHg					
	Blood			Urine		Blood			Urine		
	Blood Sugar Fasting: 160 mgs% Post Pradial: 222mgs% Serum Cholestrol: - mgs% Blood Urea: - mgs% HbA ₁ C	TC: 9000cells/cumm DC:P: 59% L: 38% E: 7% ESR – ½: 6 mm 1 hr: 11mm Hb: 71%		Alb: Nil Sug F: Nil PP: ++ Dep: NAD		Blood Sugar Fasting: 130 mgs% Post Pradial:170 mgs% Serum Cholestrol: - mgs% Blood Urea: - mgs% HbA ₁ C	TC: 9100 cells/cumm DC:P: 62% L: 38% E: 4% ESR – ½: 5 mm 1 hr:10 mm Hb: 72%		Alb:Nil Sug F:Nil PP:Nil Dep:NAD		Good

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mrs. Annaththai	Age/Sex	58/F	I.P.No.	3491	DOA	09/10/12	DOD	09/11/12	No.of days treated : 28 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive appetite Excessive excretion of urine, body pain, numbness in both soles, tiredness , back pain history of NIDDM since 5 year.	INVESTIGATIONS										
	Before treatment				Wt.	After treatment			Wt.71kg	Response	
	B.P. 130/90 mmHg					B.P.130/90 mmHg					
	Blood			Urine		Blood			Urine		
	Blood Sugar Fasting: 140 mgs% Post Pradial: 250 mgs% Serum Cholestrol: 162mgs% Blood Urea: 21 mgs% HbA ₁ C -8%		TC: 8900cells/cumm DC:P: 63% L: 32% E: 4% ESR – ½: 40 mm 1 hr: 76 mm Hb: 71%		Alb: Nil Sug F: Frace PP: ++ Dep:NAD		Blood Sugar Fasting: 124mgs% Post Pradial: 234mgs% Serum Cholestrol: 161mgs% Blood Urea:18mgs% HbA ₁ C-5.6%		TC: 9000cells/cumm DC:P: 64% L: 34% E:3% ESR – ½: 11mm 1 hr: 20mm Hb: 74%		Alb: Nil Sug F: Nil PP:++ Dep:NAD

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mr. Kaani	Age/Sex	60/M	I.P.No.	3524	DOA	11/10/12	DOD	09/11/12	No.of days treated : 29 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive appetite Excessive excretion of urine, body pain, numbness in both soles, tiredness , back pain history of NIDDM since 1 year.	INVESTIGATIONS										
	Before treatment				Wt.69 kg	After treatment				Wt.69kg	Response
	B.P.120/90 mmHg					B.P.120/80 mmHg					
	Blood			Urine		Blood			Urine		
	Blood Sugar Fasting: 210 mgs% Post Pradial: 320 mgs% Serum Cholestrol: -mgs% Blood Urea: 17 mgs% HbA ₁ C-8%		TC: 9900cells/cumm DC:P: 68% L: 35% E: 4% ESR – ½: 17 mm 1 hr: 32 mm Hb: 71%		Alb: Nil Sug F: + PP:++ Dep:NAD		Blood Sugar Fasting: 110 mgs% Post Pradial: 140mgs% Serum Cholestrol: -mgs% Blood Urea: 19 mgs% HbA ₁ C-6%		TC: 9700cells/cumm DC:P: 71% L: 32% E: 4% ESR – ½: 8 mm 1 hr: 17 mm Hb: 68%		Alb: Nil Sug F: Nil PP:Nil Dep:NAD

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mr. Madasamy	Age/Sex	66/M	I.P.No.	3525	DOA	11/10/12	DOD	09/11/12	No.of days treated : 29 days	
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam		
Complaints of	INVESTIGATIONS									
Excessive appetite	Before treatment				Wt. 67kg	After treatment			Wt. 68kg	Response
Excessive body pain,	B.P. 120/80 mmHg				B.P. 120/80 mmHg					
Excessive urination,	Blood			Urine		Blood			Urine	Poor
Excessive thirst,	Blood Sugar		TC: 9800cells/cumm		Alb: Nil	Blood Sugar		TC: 9700cells/cumm	Alb: Nil	
General tiredness since 3 years.	Fasting:190 mgs%		DC:P: 71%		Sug	Fasting: 140 mgs%		DC:P: 65%	Sug	
	Post Pradial: 240mgs%		L: 42%		F: ++	Post Pradial: 230mgs%		L: 39%	F: +	
	Serum Cholestrol: -mgs%		E: 4%		PP:++	Serum Cholestrol: -mgs%		E: 4%	PP:++	
	Blood Urea: 29 mgs%		ESR – ½: 19 mm		Dep:NAD	Blood Urea: 26 mgs%		ESR – ½: 16mm	Dep:NAD	
	HbA ₁ C-7%		1 hr: 40 mm			HbA ₁ C-7%		1 hr: 32 mm		
			Hb: 73%					Hb: 71%		

REPORTS ON THE CLINICAL TRIALS OF NAAVAL VER CHOORANAM IN IN – PATIENT

Name : Mr. Muthaih	Age/Sex	60/M	I.P.No.		DOA	18/10/12	DOD	17/11/12	No.of days treated : 30 days		
Drug : Naaval Ver Chooranam – 1GM TDS with Water								Diagnosis : Madhumugam			
Complaints of Excessive excretion of urine, body pain, numbness in both soles tiredness, back pain history of NIDDM since 1 year.	INVESTIGATIONS										
	Before treatment				Wt. 76kg	After treatment				Wt.75kg	Response
	B.P. 130/90 mmHg					B.P. 130/90 mmHg					
	Blood			Urine		Blood			Urine		Good
	Blood Sugar		TC: 9700cells/cumm	Alb: Nil		Blood Sugar		TC: 9700cells/cumm	Alb: Nil		
Fasting: 176 mgs%	DC:P: 71%	L: 34%	Sug:		Fasting: 110mgs%	DC:P: 56%	L: 32%	Sug			
Post Pradial: 220mgs%	E: 5%	ESR – ½: 18mm	F: ++		Post Pradial: 154mgs%	E: 5%	ESR – ½: 8 mm	F:Nil			
Serum Cholestrol: - mgs%	1 hr: 31mm	Hb: 68%	PP:++		Serum Cholestrol:- mgs%	1 hr: 17mm	Hb: 69%	PP:Nil			
Blood Urea: 27mgs%			Dep:NAD		Blood Urea: 24mgs%			Dep:NAD			
HbA ₁ C					HbA ₁ C						

**A STUDY ON
LITHOTRIPTIC ACTIVITY
OF**

NEERKATTU PARIKARA CHOORANUM

1. INTRODUCTION

In God's creation, undoubtedly man is the most evolved form of organism. Man gets diseased because of germs, his food habits and because of deficiency of vital nutrients. Man attempts to fight against the diseases, has resulted in different systems of medicines such as Siddha, Ayurvedha, Unani, Homeopathy Allopathy etc. of all these, Siddha system plays a vital role and it provides valuable remedies to many complicated and chronic diseases.

Today's Medical world is seriously looking at Siddha system of medicine for the remedy and the control of all the diseases. There were many (Siddhars) who lived at different period of times. But among them only 18 Siddhars are said to be very important since they served a lot for Siddha. Agasthiyar is considered to be the first and most important Siddhar among 18 of them.

Siddhars were pioneers in using metals and minerals. Unlike the drug of Plant origin, preparation from metals and minerals do not lose their potency with lapse of time. They can be administered in small and convenient dose. They are available in all seasons and can be preserved.

The basic concept of Siddha Science is that evolution is the product of unceasing work done between panchaboothams, blend in different proportions of five elements (Pancha Bootha Panchegaranam)

Siddha way of treatment has preventive and curative methods. Being in habitans of hot country like India, Indians are more prone to urinary diseases, of which kalladaippu is the most prevalent of all.

This made author to select **Neerkattu Parihara chooranam** to prove its efficacy against "Kalladaippu Noi".

2. AIM AND OBJECTIVE

NEERKATTU PARIKARA CHOORANUM

AIM AND OBJECTIVE

Aim and objective of this dissertation study is to do a scientific review of the lithotriptic activity of “**Neerkattu Parikara Chooranam**” based on the reference of “**Kannusamy Parambarai Vaithiyam**”.

Kalladaippu Noi are the commonest complaint and one of the most painful of the urological disorders. Kalladaippu may modify the victim's behavior with great fear of intense pain (Equal to Labour Pain) and threatened with failure of the Kidney.

Siddha medicines takes care of the acute pain in Kalladaippu as well as facilitates and fastens the Passage of stones in urine. The cure rate of Kalladaippu noi with our siddha system of medicine is as high as 98%

In our siddha system there are lot of medicines for kalladaippu Noi. Among them author selected the drug “**Neerkattu Parikara Chooranam**” which has a combination of seven drugs. Among the seven drugs some has an Lithotriptic action, some has diuretic action. Some has Antiseptic, Antispasmodic action. So this condition of action in this drug made author to select Neerkattu Parikara Chooranam to prove its efficacy against “Kalladaippu Noi”.

The study was done in the following aspects.

Geological aspects,

Gunapadam aspects,

Scientific aspects,

Bio chemical analysis,

Microbiological analysis,

Toxicological study,

Pharmacological study

SEM, FTIR, ICP and

Clinical assessment

3. REVIEW OF LITERATURE

3.1 GEOLOGICAL ASPECT

REVIEW OF LITERATURES

GEOLOGICAL ASPECT OF BORAX (வெங்காரம்)

CHEMICAL NAME

Sodium Biborate ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$)

Physical properties of Borax

Chemical Name	:	Sodium tetra Borate
Colour	:	Greyish white
Appearance	:	White solid
Formula weight	:	381.4 amu
Melting point	:	Decomposes at 348K 75°C
Density	:	$1.7 \times 10^3 \text{ Kg/m}^3$
Crystal structure	:	Monoclinic
Solubility	:	55gm in 100gm water

Borax is an important boron compound. It is also called as sodium borate or sodium tetraborate. It dissolves easily in water. When Borax is kept exposed to dry air, it gradually loses its water of hydration and change into a white chalky mineral tincal conite ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 5\text{H}_2\text{O}$).

Borax occurs naturally in repeated evaporation of Seasonal lakes. The most commercially important deposits are found near Boron, California, Atacana desert in Chile and in Tibet.

COMPOSITION

Na ₂ O	:	16.25%
B ₂ O ₃	:	36.6%
H ₂ O	:	47.24%
Sodium	:	12.06%
Boron	:	11.34%
Hydrogen	:	5.29%
Oxygen	:	71.32%

Classification of Borax

There are 2 types of borax available

- ❖ Dana class
- ❖ Sturz class

Other type

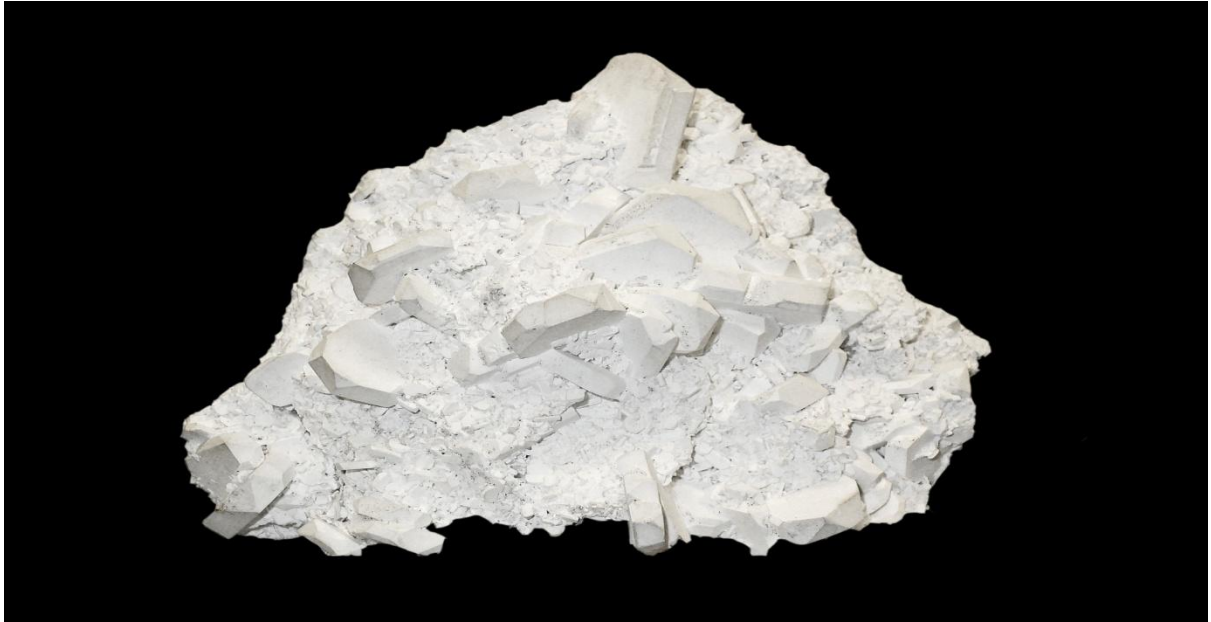
Borax exists in three forms,

- ❖ Ordinary (or) Prismatic Borax (Na₂B₄O₇·10H₂O).
- ❖ Octahedral (or) Jewellers Borax (Na₂B₄O₇·5H₂O).
- ❖ Anhydrous (or) Borax glass (Na₂B₄O₇).

Uses of Borax

1. It is capable of removing kidney and bladder stones.
2. To Increase the labour pain, Borax is used during delivery time.
3. Its solution is used as lotion and for gargling.

BORAX (VENKARAM)



PURIFIED BORAX (VENKARAM)



**GEOLOGICAL ASPECT OF
ALUMEN (ALUM) (புடிசாரம்)**

Alumen is double sulphate which is formed by the combination of Magnesium or Ferrum with a sulphate of an alkaline metal or group with sodium (or) Potassium.

Physical Properties:

Colour	:	Colourless, white
Solubility	:	Water soluble
Diapheny	:	Transparent
Lustre	:	Vitreous (Glassy)
Luminescence	:	Non-fluorescent
Hardness (Moti's)	:	2 – Gypsum
Cleavage	:	Indistinct
Streak	:	White

Chemical Properties:

Chemical formula : $KAL(SO_4)_2 \cdot 12H_2O$

Composition:

Molecular weight	474.39 gms		
Potassium 8.24%	K	9.93%	K_2O
Aluminium 5.69%	Al	10.75%	Al_2O_3
Hydrogen 5.10%	H	45.57%	H_2O
Sulphur 13.52%	S	33.75%	SO_3
Oxygen <u>67.45%</u>	O		O_2
100.00%		100.00%	Total Oxide

Classification

There are 2 types of Alumen.

- 1) Dana Class
- 2) Strunz Class

Preparation

Prepared from mineral bouxit, a hydrated aluminum oxide and Sulphuric acid with the addition of Potassium Sulphate.

Solubility

Alumen is very soluble in hot water.

It is soluble in 8 parts of water at 58°F.

Action

- ❖ Astringent
- ❖ Haemostatic
- ❖ Antispasmodic
- ❖ Antiseptic
- ❖ Irritant and Purgative
- ❖ Caustic in large doses

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ALUM (PADIKARAM)



PURIFIED ALUM (PADIKARAM

)



GEOLOGICAL ASPECT OF THE DRUG

ROCK SALT (இந்துப்பு)

Name : Sodiichloridum impura or sodium chloride impura.

Chemical Formula : Nacl

Induppu is the mineral form of sodium chloride, crystallized typically in cubes and have perfect cubic cleavage.

Because of associated impurities it is tinged grey, blue, brown or pink in colour. But when it is pure it is colourless or clear or white in colour.

Impurities

Gypsum	-	CaSO ₄
Sylvite	-	KCl

Physical Properties:

Molecular weight (NaCl) : 58.44

Atomic weight (Na⁺) : 22.98

Atomic weight (Cl⁻) : 35.45

Melting Point : 1.465⁰c

P_H of aqueous solution : Neutral

Specific gravity : 0.204

Ingestion : Dangerous in large quantity

Inhalation : Cause irritation

Production :

Salt produced in India is obtained from four main sources.

(i) Deposits of Rock salt, (ii) Sea water, (iii) Springs saline inland lakes, (iv) Saline efflorescence

Quality

Quality is estimated by its sodium chloride content. The presence of salts other than sodium chloride like magnesium chloride, calcium chloride, Sodium sulphate and sodium carbonate is considered undesirable.

ROCK SALT (INDUPPU)



PURIFIED ROCK SALT (INDUPPU)



GEOLOGICAL ASPECT OF THE DRUG

FULLERS EARTH(POONEERU)

Fuller's Earth is a naturally occurring calcium montmorillonite clay of high purity. Indian fuller's earth consists of well bedded, non arenaceous, unctuous clay varying from cream, yellow, yellowish brown, like Si, Al, Ti, Fe, Mn, Ca, Mg, K, Na, P, Hg, As, Cr, V, Ni, Cu, Co, Cd, Li, Ba, Sr, Pb etc.

Chemical analysis of fullers earth

SiO ₂	60%	MgO	3.7%
Al ₂ O ₃	15-18%	CaO	4.2%
Fe ₂ O ₃	6.6%	Na ₂ O	0.6%
TiO ₂	0.7%	K ₂ O	0.6%

PIRRSONITE:

Pooneeru has been identified as pirrsonite structure.

Chemical formula : Na₂Ca(CO₃)₂ · 2 (H₂O)

Molecular weight : 242.11 gm

Composition :
Sodium,
calcium,
Hydrogen,
carbon,
Oxygen.

FULLERS EARTH (POONERU)



PURIFIED FULLERS EARTH (POONERU)



HONEY – MODERN ASPECT

Honey is a sweet food made by bees using from flowers. Honey is a mixture of sugars and other compounds consisting of Fructose 38.3%, Glucose 31.8%, Maltose 7.2%, Sucrose 1.4%, water 17.3%.

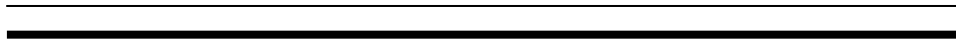
Pharmacological activity of honey

Honey has antibacterial, antioxidant, anti ulcer, antimicrobial, antiinflammatory and antifungal activities

Nutritional value of Honey

Honey	
Nutritional value per 100g (3.5oz)	
Energy	1, 272KJ (304kcal)
Carbohydrates	82.2g
Sugar	82.14g
Dietary fiber	0.3g
Fat	0g
Protein	0.4g
Water	17.12g
Riboflavin (Vit B ₂)	0.038mg
Niacin (Vit B ₃)	0.122mg
Pantothenic acid (B ₅)	0.070mg
Vitamin B ₆	0.026mg
Vitamin C	0.5mg
Calcium	8mg
Iron	0.44mg
Magnesiun	3mg
Sodium	5mg
Zinc	0.24mg

3.2 BOTANICAL ASPECT



BORASSUS FLABELLIFORMIS (பிண்டி)

CLASSIFICATION:

Bentham and Hooker classified as

KINGDOM	:	Plant kingdom
CLASS	:	Monocotlydons
SERIES	:	Calycinae
FAMILY	:	Aricaceae (or) Palmae.
GENUS	:	Borassus
SPECIES	:	Flabelliformis

HABITAT:

It Grows on dry soils or sandy localities along river banks, throughout tropical India, especially in South India.

HABIT:

Tall trees with large trunk having many long rootlets.

Leaves Pinnatisect, segments 60-80.

shinning, folded along the midrib

Petiole 1 m or more long

Flowers unisexual, Spadix large branched.

Fruit a large subglobose drupe.

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PARTS USED:

- ❖ Root,
- ❖ Flowering stalk
- ❖ Juice bark

- ❖ Fruit

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19.The medicinal plants – Tamil Nadu P.No.81

20.The Indian Materia Medica P.No.209

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PHYTOCHEMICALS IN **BORASSUS FLABELLIFORMIS** (பினை)

CHEMICAL CONSTITUENTS:

Tree yields a gum

sugars

Butyric acid

Fats

Albuminoids

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Fresh saccharine Juice obtained by excision of the spadix. (young terminal buds)

-Coolent

-Stimulant beverage

-Laxative

-Dropsy

-Gastric catarrh

-Hiccup

-Gonorrhoea

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21. The Indian Materia Media. P.No:210

22. The Medicinal Plants. Tamil Nadu P.No.81

BORASSUS FLABELLIFORMIS (புனை)



PANAMPOO



BOTANICAL ASPECT

ACHYRANTHES ASPERA (நாயுருவி)

Achyranthes aspera is a erect herb (or) under shrub. According to Bentham and Hookers classification Achyranthes aspera is classified as follows.

KINGDOM	:	Plant kingdom
CLASS	:	Dicotlydons
SUB CLASS	:	Monochlamydeae
SERIES	:	Curvembryae
FAMILY	:	Amaranthaceae
GENUS	:	Achyranthes
SPECIES	:	Aspera

HABITAT AND DISTRIBUTION:

It grows in forest borders, sides of rivers, dry shady places. The plant usually prefers dry, sandy and loamy soils. It prefers muddy and neutral soils. It can grow in semishady or no shade places.

Description:

This plant grows from 0.3m to 0.60m. Its stem, is light brown, sandy in colour. Leaves are light green in colour.

Leaves variable ovate-Lanceolate, Pubescent about 3inches long, to lanceolate and finally linear in shape.

Flowers are Pink in colour, flowering from July to October. The flowers are hermaphrodite ie having both male and female organs.

Parts used:

Whole plant, root, leaf and seed.

PHYTO CHEMICALS

ACHYRANTHES ASPERA (நாயுருவி)

Whole Plant Contains

Peptide made up of polysaccharides.

Rutin

Saponin

Achyranthine

Caffitic acid

Oleonolic acid.

Inokosterone

Ecdy sterone

Rubrosterone

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Root contains

Ecdy sterol

Inokosterol

Rubra sterol

Triterpenoid sapories

Sitosterol

Stignasterol.

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23. Medical plants TamilNadu.

24. Indian Journal of Pharmacology 2003.

ACHYRANTHES ASPERA (நாயுருவி)



(நாயுருவி)



BOTANICAL ASPECTS

Musa Paradisica (ഘാതെ)

Classification:

Bentham and Hooker classified as

CLASS	:	Monocotlydons
SERIES	:	Epigynae
FAMILY	:	Scitaminaceae
SUB FAMILY	:	Musaceae
GENUS	:	Musa
SPECIES	:	Paradisica

Distribution:

It is cultivated throughout India for its fruits. The plant is widely distributed throughout the tropical region.

It is native to India and Burma through the malay to New Guinea, America, Australia, Samona and Pelago.

However the cultivation is florida, the canary Islands, Egypt, southern Japan and South Brazil.

PHYTO CHEMICALS IN MUSA PARADISICA

ACTIVE INGREDIENTS (WHOLE PLANT)

Tannins
Eugenol
Tyramine
High tannin
Antibiotic activity (unripe fruits)
Serotonin – Ripe fruits
Levarterenol – Ripe fruits
Dopamine – Ripe fruits
Alkaloids
Steriodal
Lactones and Iron.

BANANA STEM

Moisture	- 88.3%
Protein	- 0.5%
Fat	- 0.1%
Carbohydrate	- 9.7%
Fibre	- 0.8%
Mineral Matter	- 0.6%
Calcium	- 0.01%
Phosphorus	- 0.01%
Iron	- 1.1 mg
Nicotinic acid	- 0.2 mg/100mg
Carotene	- Nil.

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MUSA PARADISICA (வாழை)



வாழைத்தண்டு



3.3 GUNAPADAM ASPECT

GUNAPADAM ASPECT OF BORAX (வெங்காரம்)

வெங்காரம் இயற்கைஉப்பு வகையினைச் சார்ந்ததாகும். இது வாயுபூத கூறுபாடு உடையதாகும்.

வெங்காரத்தின் வேறு பெயர்கள்

“காரி பொரிகாரி குடும் பேதகமணி
நேரியுருக்கிழை நேர்ந்த மணிகாரம்
வாரிய துமத்தை யடக்கிய சிற்பரி
காரிய சந்தானி காத்த குடோரி”

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பொருள்:

- | | |
|--------------|-----------------|
| ▪ பொரிகாரி | ▪ காரம் |
| ▪ காரி | ▪ துமத்தையடக்கி |
| ▪ பேதகமணி | ▪ சந்தானி |
| ▪ உருக்கினம் | ▪ குடோரி |

பஞ்ச பூதாம்சம்

வெங்காரம் வாயு பூதாம்சம் கொண்டது என்பதனைக் கீழ்க்கண்ட பாடலால் அறியலாம்.

“அறிந்து கொள் வெடியுப்பும் சுவட்டினுப்பும்
அரகரா தேயுவென்றே அறியலாகும்
தெரிந்து பார் வெங்காரந் துருசி ரண்டும்
திறமான வாயுவென்றே செப்பலாகும்”

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வெங்காரத்தின் பண்புகள்:

- ❖ வெண்மைநிறம், சற்று மினுமினுப்பாக இருக்கும்.
- ❖ நீரில் கரையும், சாராயத்தில் கரையாது.
- ❖ காற்றுபடும்படி வைத்தால் உப்பின் மேல் வெண்ணிறத்தூள் படையும்

Taste (சுவை) : Sweet and Astringent (இனிப்புடன் கூடிய துவர்ப்பு)

Potency (தன்மை) : Hot (வெப்பம்)

Bio Transformation (பிரிவு) : Pungent(கார்ப்பு)

செய்கை:

- ❖ கற்கரைச்சி (Lithotriptic)
- ❖ குளிர்ச்சியுண்டாக்கி (Refrigerant)
- ❖ சிறுநீர் பெருக்கி (Diuretic)
- ❖ ருது உண்டாக்கி (Emmenagogue)
- ❖ பிரசவகாரி (Parturifacient)
- ❖ உடல்தேற்றி (Alterative)
- ❖ அழுகல் அகற்றி(Antiseptic)
- ❖ துவர்ப்பி (Astringent)

பொதுகுணம்

“வெங்காரக் குணமிதென்று விதமுடனுரைக்கக் கேளாய்
சங்கார மாகுந்தோஷந் தன்னையே சங்கரிக்கு
முங்கன லுதவியில்லா வுதரத்தில் வாயுமாற்றும்
பொங்கிய இருமல் மாந்தம் போக்கிடு முண்மைதானே”

பொருள் :

வெங்காரம் தோஷித்த தோடம், உதரவாயு, இருமல், மூத்திரகிரிச்சரங்கள்,
மாந்தம் முதலியவற்றை போக்கும்.

சுத்திமுறைகள்:

- வெங்காரத்தை நீர் வற்றும்படி பொரித்துக் கொண்டால் சுத்தியாகும்.
- வெங்காரத்தை சீலையில் முடிந்து எருமைச் சாணத்தில் பொதிந்து வைத்து 3 நாட்கள் சென்றபின் சுத்த நீரில் கழுவி உலர்த்த சுத்தியாகும்.

GUNAPADAM ASPECT OF ALUMEN (படிகாரம்)

வேறு பெயர்கள்:

- ❖ சீனாக்காரம்
- ❖ படிகி
- ❖ சீனம்
- ❖ வெடிபதிரதி
- ❖ வாதிக்காரம்
- ❖ ஒளிக்காரம்
- ❖ தனஞ்சயக்காரம்
- ❖ வாலரைகுபதிகாரம்

VERNACULAR NAMES:

English	:	Alum sulphate of Alumina and Potash.
Burmes	:	Khin, Kyoun-kyen
Bengali	:	Phetkari
Arabian	:	Stiabb. Zaji abyas
Hindi	:	Phittikarhi
Malay	:	Tawas
Sanskrit	:	Kamakshi, Tuvary
Tamil	:	Patikaram, Padikharam, Shinacaram

படிகாரம் இயற்கை பத்தினுள் ஒன்றாக போகர் 7000 தில் கூறப்பட்டுள்ளது. இதனை போகர் காரசாரத்துறையில் தொகை பெயராகவும் கூறப்பட்டுள்ளது.

படிகாரம் கிடைக்குமிடம்:

நேபாளம், பஞ்சாப், பீகார், கத்தியவார்

நிறம் மற்றும் சுவை

Colour (நிறம்)	–	White (வெண்மை)
Taste (சுவை)	–	Sour, Sweet, Astringent

பொதுக்குணம்

“சீன மெனுங் காரமது சீறிவரு பல்லரணை மாநிலத்தில்
ஆணைக்கால் கண்ணோய் அனிலமோடு
தூர்மாங்கிசம் வாயு தோலாத உள்ளழலை
குன்மமிவை போக்குமெனக் கூறு”

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பொருள்:

பல்லரணை, யானைக்கால், கண்ணோய் நீங்கும். மற்றும் இரத்த
பித்தநோய், இரத்தப்பெருக்கு, அதிசாரம், சீதபேதி, தொண்டைப்புண்,
பெரும்பாடு போன்ற நோய்களைப் போக்கும்.

சுத்தி:

- ❖ படிகாரத்தை தூள் செய்து அகலில் இட்டு அடுப்பேற்றி, நீர்போக
பொரித்து எடுக்கச் சுத்தியாகும்.
- ❖ படிகாரத்தை தண்ணீரில் கரைத்து வடிகட்டி, அடுப்பில் வைத்து
குழம்பு பக்குவமாய் இறக்கி குளிரும்படி செய்ய சுத்தியாகும்.

செய்கை:

துவர்ப்பி, குருதிபெருக்கடக்கி, அழகலகற்றி, புண்ணாக்கி, இசிவகற்றி. இது
மலத்தைக் கட்டும்.

அளவு:

650 கிராம் முதல் 1.3 கிராம் வரை

GUNAPADAM ASPECTS

ROCKSALT (இந்துப்பு)

வேறு பெயர்கள்:

- சைந்தவம்
- சந்திரனுப்பு
- மதி கூர்மை
- சிந்தூரம்
- மதியுப்பு
- மதிலவணம்
- மாக்கசம்
- வாளி

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VERNACULER NAMES

Tamil : Inthuppu

English : Rocksalt

Hindi : Lahori namak

Gujarat : Mithu

Bengali : Nimork

இந்துப்பு செயற்கை உப்பு பதினைந்தில் அடங்கும். இந்துப்பு வாயு கூறுபாடு உடையதாகும்.

இந்துப்பு கிடைக்குமிடம்:

சிந்து தேசத்திலும், பஞ்சாப் தென்மேற்குப் பாகங்களிலும், நிலத்திலிருந்து வெட்டி எடுக்கின்றார்கள்.

இந்துப்பு நிறம்

- மேல்புறம் அழுக்குப் போன்ற கபில நிறமாயும்,
- உள்புறம் வெள்ளை நிறமாகவும்,
- வாயிலிட்டால் உப்பு சுவையாகவும் இருக்கும்.

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28. குணபாடம் தாதுசீவ வகுப்பு

29. GUNAPADAM THATHU JEEVA VAGUPPU.

சுத்தி முறைகள்:

காடி அல்லது வெள்ளாட்டு முத்திரத்தில் 72 நிமிடங்கள் மத்தித்து, சூரிய ஒளியில் உலர்த்தி கொள்ள சுத்தியாகும்.

(வேறு)

காடியில் மூன்று தினம் ஊறப்போட்டு, வெய்யிலில் உலர்த்தி எடுக்க சுத்தியாகும்.

இந்துப்பு செய்கைகள்:

- மலகாரி
- பசித்தீத்தூண்டி
- அகட்டுவாய் அகற்றி
- சிறுநீர் பெருக்கி

பொதுக்குணம்

“சென்னிக்கண்ணா பற்றூர் செவிகவுள்கள்ண
சன்னியா சங்காசந் தாகமிரைப் - புன்னிரத்த
மூலஞ் சிலந்திநளி முழகநஞ் சூதை வலி
சூலஞ் சிதையுமிந்தாற் சொல்”

பொருள் :

எண்வித குன்மம்
மலபந்தம்
சந்நியாசம்
நேத்திர காசம்
சுவாசம் இவை போக்கும்.

GUNAPADAM ASPECT OF DRUG POONEERU

பூத்து வருகின்ற நீறு பூநீறு எனப்படும். பூநீறு காரசாரத்தில் ஒன்று. இது சார (சக்திப்பொருள்) வகுப்பை சேர்ந்தது. இது இயற்கை உட்பாகும்.

“பூநீறே சாரமிது போதுஞ் சரக்குவகை”

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பஞ்சபூதக் கூறு:

பூநீறு ஆகாய கூறு உட்பாகும்

“ஊணப்பா ஆகாயம் வழலை யுப்பு”

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பூநீறு வேறு பெயர்கள்:

• பூ வழலை

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- தேனானசோதி
- கருவானவண்டு
- குருக்கள்
- தீபம்

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பூநீறு கிடைக்கும் இடம்:

உலகில் பூநீறு எடுக்கக்கூடிய இடங்கள் ஏராளமாக இருப்பினும் அதில் பாண்டியநாடு, சிவகங்கை, சோழநாடு, ஆவுடையார் கோயில் சிறந்தது.

“உற்றுப்பார் சிவனிருந்த பூமி தன்னில்

ஒரு பூண்டு முளையாது உவருப்பாலே

அற்றுப்போர் மருதநில மயானருத்தன்

அவனுடனே சக்தியடுத்திருந்த தாலே”

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31. தேரர் வெண்பா (பாடல் 172)

32. அகஸ்தியர் வழலை – 14

33. குணபாடம் தாது சீவவகுப்ப

34. அகஸ்தியர் பரிபூரணம் - 400

35. வள்ளுவர் சிந்தாமணி

பூநீறு எடுக்கும் காலம் :

“பார்த்திட்ட பூநீற்றின் பருவங்கேளு
பங்குனியுஞ் சித்திரைவை காசிக்குள்ளே
பூர்த்திட்ட ரவிசுருக்கிற் பொங்கி நீறும்
பூப்போன்மே நிற்குமதை வாரிக்கொள்ளு”

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பணி பெய்யும் காலத்தில் பூநீறு எடுக்க வேண்டும் என்பதனை

“பனி பெய்யுங்காலம் பாருங்களர் மண்ணில், பூற்றாய்
புனிதமாய்ப் பிறக்கும்.”

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பூநீறு சுத்தி:

ஒரு படி (1.3லிட்) பூநீற்றுக்கு, 4படி (5.2லிட்) பனி நீர் சேர்த்து கரைத்து பாண்டத்திலிட்டு தெளியவிட்டு, காலையில் தெளிவை இறுத்துக் கடைந்து ஆடை போக்கி பீங்கான் தட்டுகளிலிட்டு வெய்யிலில் வைக்க உறைந்து உப்பாகும். இதற்கு தீட்சை செய்தல் என்று பெயர்.

பூநீற்றின் பொதுகுணம்

“கரப்பான் சீதத்தை கண்டிக்கும் பேதி
யுரப்பாகும் வாயுதனை யோட்டும் சுரப்பாக்கும்
உந்திவலி குன்மம் ஒழிக்கும் பூநீறனவே
செந்தாமலை முகத்தாய் செப்பு”

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செய்கை:

ஆம்லநாசினி – Antacid

மூத்திரவர்த்தனகாரி – Diuretic

36.BOGAR 7000

37.GUNAPADAM THATHU JEEVA VAGAPPU

38.பதார்த்த குணவிளக்கம்

GUNAPADAM ASPECT

BORASSUS FLABELLIFORMIS (பனை)

வேறு பெயர்கள்:

தாலம், கரும்புறம், ஏடகம், காமம், தருவிராகன், தாளி

VERNACULAR NAMES:

Eng : Palmyra palm

Tel : Tati

Mal : Pana

Sans : Tala

Hind : Tar

பயன்படும் உறுப்பு:

பூ, குருத்து, ஒலை, மட்டைகள், கிழங்கு

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சுவை: (பனம்பூ):

Taste (Suvai) – Astringent (Thuvarppu)

Potency (Thanmai) – Coolent (Thatpam)

Bio-Transformation (Pirivu) – Sweet (Inippu)

செய்கை:

துவர்ப்பி – Astringent

சிறுநீர்ப்பெருக்கி – Diuretic

குளிர்ச்சியுண்டாக்கி – Refrigerant

உடலுரமாக்கி – Nutrient

பொதுகுணம் (பனம்பூ)

“பனையிலுறு பூவதுதான் பங்கமுறாக் குன்ம

வினையகற்றும் நீர்கட்டை மீட்கும் - முனையான

பன்னோய் ஒழிக்கும் பழஞ்சுரத்தைப் போக்கிவிடும்

மின்னே இதனை விளம்பு”

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பொருள்: வாதகுன்மம், நீருகல், பல்நோய், பழைய சுரம் இவைகளை போக்கும்.

39.குணபாடம் மூலிகை வகுப்பு ப.எண்.515

40. அகஸ்தியர் குணவாகடம்

GUNAPADAM ASPECT OF MUSA PARADISICA (வாழை)

வேறு பெயர்கள்:

அப்பளம்

அரம்பை

ஓசை

கதலி

கவர்

சேகிலி

திரணபதி

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Vernacular name:

Eng : The plantain tree

Tel : Atral kadali

Mal : Vazha

Kan : Bale

Sans : Kadali

Pers : Mough

Duk : Maoz

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பயன்படும் உறுப்பு:

பட்டை

கட்டை

வாழைக்கிழங்கு நீர்

இலை

பூ பிஞ்சு

காய்

பழம்

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41, 42, 43, - குணபாடம் மூலிகை வகுப்பு

Taste (சுவை) : Astringent (துவர்ப்பு)

Potency (தன்மை) : Coolent (தட்பம்)

Bio-Transformation (பிரிவு): Pungent (கார்ப்பு)

செய்கை:

சிறுநீர் பெருக்கி - DIURETIC

குளிர்ச்சியுண்டாக்கி - COOLENT

துவர்ப்பி - ASTRINGENT

குருதிப்போக்கடக்கி - STYPTIC

உள்ளழலாற்றி, - DEMULCENT

உடல் உரமாக்கி - NUTRIENT

வாழை கிழங்கு, தண்டின்குணம்

“வாழைநீர் தான்குளிர்ச்சி வல்லபல முண்டாக்கும்

பேழை வயிறுடைக்கும் பெண்மயிலே!-வீழவல்லி

ரத்தக் கிரிச்ச மெரிநீ ரிவையுடனே

சிறுநீரணம் போக்குந் தெரி

சோமரோ கங்க ஓலையு மிளைப்புழலை

நாமமுறும் பாண்டுவகை நாடேதே – பூமி தனில்

காழை எலும்புருக்கி காணா வணங்கரரே!

வாழைநீர்க் கென்றுளத்தில் வை.”

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பொருள் :

இந்நீரை 80-160மிலி வரை பருக சிறுநீரை பெருக்கச் செய்யும். பெருவயிறு, நீர்ளிச்சல், அதில் குருதி வீழல், உடல் வெளுத்து கழிச்சலை உண்டாக்கும் நோய், தொண்டையில் கோழை, அயர்வு, உழலைநோய், பாண்டு, எலும்புருக்கி ஆகியவை நீங்கும்.

44.அகஸ்தியர் குணவாகடம

GUNAPADAM ASPECT

Achyranthes aspera (நாயுருவி)

வேறு பெயர்கள்:

- | | |
|----------------|----------------|
| ▪ சுவானம் | • காஞ்சரி |
| ▪ அபாமார்க்கம் | • கிருஷ்ணபன்னி |
| ▪ நாய் குருவி | • கொட்டாவி |
| ▪ மாமுனி | • நாயரஞ்சி |
| ▪ கதிரி | |

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VERNACULAR NAMES:

Eng : Rough chaff (or) Pricky chaff

Tel : Uttareni

Mal : Kadalad

Kan : Uttaranee

Sans : Apamarga

Hindi : Chir – chir

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Taste (சுவை):

Bitter (கைப்பு)

Astringent (துவர்ப்பு)

Pungent (கார்ப்பு)

Potency (தன்மை):

Hot (வெப்பம்)

Bio-Transformation(பிரிவு):

Pungent (கார்ப்பு)

செய்கை:

துவர்ப்பி	-	Astringent
சிறுநீர்ப்பெருக்கி	-	Diuretic
உடல்தேற்றி	-	Alterative
முறைவெப்பகற்றி	-	Anti Periodic

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பொதுகுணம்:

“மலிகாரங் கைப்புள்ள அபமார்க்கி யின்வேரால் வசிய முண்டாம் மேகம்
இலைமூல உதிரமந்தம் பேதிகபம் வியர்வுதந்தி யிறங்கு மேகம்
மலையேறும் படிபுரியு முள்ளரிசி பசிமாற்றும் வனச மூலம்
பலமாதர்க் குள்ளழக்கை நீக்குவங்கச் சிந்தாரம் பண்ணுமாதோ”

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Action:

Anodyne
Anti-ulcer
Anti- Inflammatory
Anti-Rheumatic
Diuretic
Vasodilator

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47. குணபாடம் மூலிகை வகுப்பு

48. குணபாடம் மூலிகை வகுப்பு

49. <http://www.pfaf.org/datgabase/plants>.

வெங்காரம் சேரும் கல்லடைப்பிற்கான மருந்துகள்

1. கல்லடைப்புக்கு மெழுகு

”பொரிகாரந் திப்பிலியும் புட்டி வெல்லத்
தண்ணீர் கல்பரிகாரங் குப்புற விழும்”.

வெண்காரத்தைப் பொரித்து திப்பிலியைப் பொடி செய்து சமனாய்ச்
சேர்த்துப் பனைவெல்லமும் கலந்து கழற்சியளவு 10 நாட்கள் 2 வேளை வீதம்
உட்கொள்ளவும்.

தீரும் நோய்:

நீரடைப்பு, கல்லடைப்பு, நீங்கி நீருடன் கல் தெரித்துத் தரையில் வந்து
விழும்.

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நீரடைப்புக்கு எண்ணெய்

செய்முறை:

விளக்கெண்ணெய் கால் படியில் (500 மிலி), ஈருள்ளி 1 பலத்தைச் (35
கிராம்) சிதைத்துப் போட்டு பொனிறமாய்க் காய்ச்சி வடித்து அத்துடன் பொரித்த
வெங்காரம், கடுக்காய்த்தூள் வகைக்கு 1 கழஞ்சு (5 கிராம்) போட்டுக் கலக்கிக்
கொடுக்கவும்.

தீரும் நோய் :

தூர்மாங்கிசம்,

நீரடைப்பு,

கல்லடைப்பு.

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50.கைகண்ட அனுபோக வைத்தியப் பெருங் குறள். பக்கம் 151.

51.ஆத்ம ரட்சாமிர்த மெய்னும் வைத்திய சாரசங்கிரகம். பக்கம் 473.

படிகாரம் சேரும் கல்லடைப்பிற்கான மருந்துகள்

சீனாக்கார பற்பம்

1. செய்முறை:

சங்குச் சுண்ணாம்பினால் குகை செய்து அதற்குள் சீனாக்காரக்கட்டியை வைத்து மூடி சீலைமண் செய்து குக்குட புடம் போட பற்பம் ஆகும்.

அளவு : பணவெடை.

அனுபானம் : நெய்.

தீரும் நோய்: பித்தவெட்டை, உஷ்ணரோகங்கள், நீர்க்கடுப்பு, கல்லடைப்பு.

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2. செய்முறை:

கோவைத்தண்டை இடித்துப் பிழிந்த சாறு கால்படி, பொரித்த சீனாக்காரம், சுண்ணாம்பு வகைக்கு 1வராகனெடை. பொடித்துப் போட்டுக் கொடுக்க கல்தெறித்து நீரிறங்கும்.

இந்துப்பு சேரும் கல்லடைப்பிற்கான மருந்துகள்

1. நீரடைப்புக்கு மாத்திரை:

சுக்கு, மிளகு, திப்பிலி, பொரித்தவெங்காரம், இந்துப்பு, வகைக்கு 20 கிராம்.

செய்முறை:

சரக்குகளை இடித்துத் தூள் செய்து இளநீரில் ஒரு நாள் ஊற வைத்து அரைத்து மிளகளவு மாத்திரைகளாகச் செய்து கொள்ளவும்.

அளவு : 1 அல்லது 2 மாத்திரை

அனுபானம் : தண்ணீர்.

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2. அகஸ்தியர் குழம்பு

பெருங்காயம், கடுகு, இந்துப்பு, இரசம், வெங்காரம், நாபி, மனோசிலை, ஓமம், அரிதாரம், கருஞ்சீரகம்- வகைக்கு 1 கழஞ்சு, வாளம் 10 கழஞ்சு

52. பிராண ரஷாமிர்த சிந்து2வது பாகம் 415

53. தொல்லைதரும் நோய்களும் அதை நீக்கும் வழிகளும். பக்கம் 110

அளவு : குன்றியளவு (130 மிலி கிராம்)
துணைமருந்து : சங்கன்குப்பிச்சாறு
தீரும் நோய் : கல்லடைப்பு, கிரந்தி, பறங்கிப் புண்.

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பூநீறு சேரும் கல்லடைப்பிற்கான மருந்துகள்:

1. சதுர்முக பற்பம்

வெங்காரம், படிகாரம், வெடியுப்பு, பூநீறு வகைக்கு 1 பலம். இவைகளைக் கல்வத்தில் போட்டு வாழைக் கிழங்கு சலம் விட்டு 2 சாமமரைத்து ரவியில் வைத்து நீர் சுண்டி மெழுகு பதம் வரும் போது வில்லை தட்டி காயவைத்து அகலில் அடக்கி சீலை செய்து 10 வறட்டியில் புடம் போடப் பற்பமாகும்.

அளவு : 1 முதல் 2 குன்றியெடை

தீரும் நோய்: கல்லடைப்பு, நீரடைப்பு, சதையடைப்பு, பிரமேகம்,

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2. சூடன் -1 பலம், வெடியுப்பு நான்கரை பலம், உவர்உப்பு அரைபலம், புனுகு, ஏலம், கஸ்தூரி வகைக்கு அரை கழஞ்சு. இவற்றை எடுத்துக் கொண்டு, கல்வத்தில் போட்டரைத்து சந்தனத்தைலம் விட்டுப் பிசறி ஒரு குப்பியில் அரை பங்கு இட்டு, மாக்கல்லால் வாயை மூடி, ஏழு சீலை செய்து, தாளியில் அரைவாசி மணலிட்டு, அதில் குப்பியை வைத்து, மேலும் மண்ணிட்டு, ஒரு கொண்டு மூடி சீலை மண் செய்து உலர்த்தி அடுப்பேற்றி 1 சாமம் தீபம் போலெரித்து ஆறவைத்துக் கொள்ளவும்.

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பனை சேரும் கல்லடைப்பிற்கான மருந்துகள்

1.கல்லடைப்புக் குடிநீர்:

பனங்குருத்து, நெருஞ்சில், நீர்முள்ளி, சூரைவேர், காஞ்சொறிவேர், வில்வவேர், குரோசாணி ஓமம், நீர்க்கடம்பின் வேர். இவைகளை ஓர் அளவாய்க் கொண்டு முறைப்படி குடிநீராக்கிக் கொள்ளவும்.

அளவு : 1 ஆழாக்கு

தீரும் நோய்: கல்லடைப்பு

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55. சித்த வைத்திய திரட்டு பக்கம் 175

56. பதார்த்த குணவிளக்கம், தாது சீவ வகுப்பு 174

57. குணபாடம் தாதுசீவ வகுப்பு 2ம் பகுதி.பக்கம்314

58.சித்த மருத்துவம் பக்கம்.444

2. பனம்பூ சாம்பல்:

பனம் பூவைக் காயவைத்து, கொளுத்தி வெள்ளை நிறங்காணச் சாம்பலாக்கி வைத்துக் கொண்டு வேளைக்கு 5 குன்று எடை சலத்தில் போட்டு கொடுக்க வேண்டும்.

தீரும்நோய் :

வாத குண்மம், மூத்திரச்சிக்கல், கல்லடைப்பு, தந்தரோகம், புராணசுரம்

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வாழை சேரும் கல்லடைப்பிற்கான மருந்துகள்

1.தசையடைப்பு, கல்லடைப்பு, மேகவெட்டைஇழுத்திரக் கிரிச்சரம்

வெள்ளை காண்கிறதற்கு மருந்து

கதலியி பூ மொறதைத்தானே

கறி சமைக்கிறது

முடுக்கிடுங் கல்லினடைப்பு மேகவெட்டை

மூத்திரக் கிரிச்சமும் போமே.

நாயுருவி சேரும் கல்லடைப்பிற்கான மருந்துகள்:

1. நீரடைப்பு, கல்லடைப்பு தீர மருந்து:

”சொல்லுமே நீரடைப்பு தீர பெருங்குறிஞ்சா

கல்லத்திப் பட்டைக் கடுகுடனே-சொல்லுந்

திரிகடுகு நாயுருவி சேர் கொளிஞ்சி வேரும்

காரம் பொரித்திட்டுக் கருதியருந்திடவே

கூர் நல்லடைப்புக் கூடும்”

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2. பிரிமியம் கல்லடைப்புக்கு

ஈரவெங்காயம் - 1 பிடி

நாயுருவி இலை - 1 பிடி

இவைகளை வேகவைத்து எடுத்துக் கொண்டு, பசுவின் நெய் விட்டு வதக்கி

சாப்பிட பிரிமியம், கல்லடைப்பு முதலிய ரோகங்கள் தீரும்.

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59.சித்த வைத்திய பதார்த்த குண விளக்கம்

60.குணவாகடத் திரட்டு

61.சரபேந்திர வைத்திய முறைகள்-

3.4 SIDDHA ASPECT OF DISEASE

KALLADAIPPU NOI

கல்லடைப்பு நோய்

வேறு பெயர்: அச்சமரி.

நோய் இயல் :

சிறுநீர் கழிக்குங்கால் அ.து இறங்கிக் கொண்டிருக்கும்போதே திடீரென நீரடைத்தல், குறிமுனை நோதல், நீர்ப்புழை எரிதல், இடுப்பின் பின்புறத்தும், முதுகுத் தண்டின் பக்கத்தும் நோதல், சிறுநீரில் மணலையொத்த சிறு கற்கள் கலந்திருத்தல் ஆகிய தன்மைகளையுடையதாம்.

நோய் வருவழி:

சுணைநீர், பன்னாட்கள் தேங்கிய நீர் இவைகளைப் பருகுவதாலும், மாப்பண்டம், வளிக்கூற்றத்தை மிகுதிப்படுத்தும் உணவு முதலியவற்றை உண்பதாலும், விந்து கட்டுப்படுத்துவதாலும் இந்நோய் பிறக்கும் எனக்கூறுவர்.

“கலங்கினதோர் தண்ணீர்தான் குடித்த பேர்க்குக்

கல்லெலும்பு மயிர்மண்தான் கலந்தன் னத்தில்

அலங்கியதோ ரன்னங்க ளருந்த லாலும்

அருகலொடு பழம்பண்ட மருந்த லாலும்

மலங்கினதோர் மாப்பண்ட மருந்த லாலும்

மந்தத்தில் வாயுவாம் பதார்த்தந் தன்னைத்

துலங்கினதோ ருசிதன்னிற் சுவைத்த லாலும்’

சுருக்காய்க்கல் லடைப்புவந்து தோன்றுந் தானே.”

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எண்:

குற்ற அளவாக வளி, தீ, ஐய, எனும் மூன்றும், சுக்கிரம், சர்க்கரா என இரண்டுங்கூட்டி ஐந்தென ஒரு சாராரும், குற்ற அளவாய் வளி, தீ, ஐய, முக்குற்றமென நான்காக மற்றொரு சாராரும் கூறுவர்.

நாம் உண்ணும் உணவின் சாரத்தின் பகுதி நீர்க் குண்டிக்காயில் நீராகப் பிரிக்கப்பட்டு, சிறுநீராய் (முத்திரமாக) வெளியாகிறது. இந்நீரில் பலவகைப்பட்ட உப்புகள் நிறைந்திருக்கின்றன. இவ்வுப்புகள் சிலவேளை குண்டிக்காயில் தங்கி உறைவதுண்டு. உறைந்த உப்பின் ஒரு சிறு பகுதி ஓரிடத்திலேயே தங்குமாயின் அ.து அளவில் பெருத்து வளரும்.

சிறிய அளவில் உள்ளபோது சிறுநீருடன் கலந்து இழிந்து நீர்ப்பையில் சிலவேளை தங்கிவரும். அங்ஙனம் தங்கிய உப்பு உருவத்தில் பெரிதாகிப் பல துன்பங்களை உண்டாக்கும். அதுவே மேற்கூறிய கல்லடைப்பு நோயாம்.

அ.து அவ்வாறே நீர்க்குண்டிக்காயில் பெருத்து வளருமாயின் உப்பின் வகைகளுக்கு ஏற்ப முனைகள் முள்ளைப்போல் கூர்மையாயிருப்பின் கடுமையான குறிகளையும், வழுவழுப்பாயிருப்பின், சற்று கடுமையற்ற எளிமையான குறிகளையும் காட்டும்.

குண்டிக்காய் வன்மை குறையுங்கால், சிறுநீரைக்கட்டும். கற்கள் சிறு அளவில் இருப்பின், அவை மெல்லமெல்ல நழுவி வெளிவந்துவிடுவதுமுண்டு. சிலருக்கு இருபக்கத்து நீர்க்குண்டிக்காயிலும் கல் வளர்ந்து மிகுந்த துன்பத்தை உண்டாக்குவதுமுண்டு.

பொதுக்குறிகுணங்கள்:

முன்பு கூறிய முற்குறிகளைக் காட்டி, அடிக்கடி வெளியாகும் நீர் முற்றும் வெளியாகாமல், திடீரென அடைத்துக்கொள்வதுமுண்டு. அப்போது தாங்கமுடியாத வலி ஆண் குறியிலும், எருவாய்க்கு மேற்பகுதியிலும் உண்டாகும். சில வேளையில் கல்புரண்டு கொண்டே வந்து, வெளியாவதற்கு முயன்று ஆண்குறி முனையில் வந்து தடைப்பட்டு அங்கு மிகுந்த வலியையும் வீக்கத்தையும் உண்டாக்கும். கற்கள் கரடுமுறடாயேனும், கூர்மையாயேனுமிருப்பின் கீழ் வயிற்றிலும், நீர்ப்புழையிலும் தாங்கமுடியாத எரிச்சலையும், வலியையும் தந்து குருதியை மிகவும் வெளிப்படுத்தும்.

குற்ற முதலிய வேறுபாடுகள்:

உணவு, நீர் முதலியவைகளால் தீக்குற்றம் மிகுந்து உடல் நீரைச் சுண்டச் செய்து, சிறுநீர் வற்றி, நீரின் உப்பை உறையச்செய்தும், கீழ்நோக்குக் கால் வன்மையிழந்தால், அவற்றின் அவ்வப்போது வெளியாக்காது தங்கச் செய்வதோடு இந்நோயைப் பிறப்பிக்கும்.

3.5 MODERN ASPECT OF DISEASE

KIDNEY STONES (RENAL CALCULI)

MODERN ASPECT OF DISEASE

KIDNEY STONES (RENAL CALCULI)

- ❖ A kidney stone is a hard, crystalline mineral material formed within the kidney or urinary tract. Kidney stones are a common cause of blood in the urine (hematuria) and often severe pain in the abdomen, flank, or groin. Kidney stones are sometimes called renal calculi.
- ❖ The condition of having kidney stones is termed nephrolithiasis. Having stones at any location in the urinary tract is referred to as urolithiasis, and the term ureterolithiasis is used to refer to stones located in the ureters.

CAUSES OF KIDNEY STONES

- ❖ Infection or obstruction may play a part in kidney stone formation.
- ❖ Sometimes they occur when the level of blood calcium is abnormally high.
- ❖ Occasionally, stones may develop when the blood level of uric acid is too high, usually from over consumption of meat.
- ❖ Excessive dietary intake of calcium and oxalate and low fluid intake have also been associated with formation of stones
- ❖ In most cases, however the cause is not known.
- ❖ It has been found that certain persons are having a tendency of forming recurrent urinary stones. Even after treating successfully once, they tend to form stones again and again.

Symptoms

The main symptom is severe pain that starts suddenly and may go away suddenly:

- ❖ Pain may be felt in the belly area or side of the back
- ❖ Pain may move to groin area (groin pain) or (testicle pain)

Other symptoms can include:

- ❖ Abnormal urine colour
- ❖ Blood in the urine
- ❖ Chills
- ❖ Fever
- ❖ Nausea
- ❖ Vomiting

Signs and tests

- ❖ The healthcare provider will perform a physical exam. The belly area (abdomen) or back might feel sore.

Tests that may be done include:

- ❖ Blood tests to check calcium, phosphorus, uric acid, and electrolyte levels
- ❖ Kidney function tests
- ❖ Urine analysis to see crystals and look for red blood cells in urine
- ❖ Examination of the stone to determine the type

Stones or a blockage can be seen on:

- ❖ Abdominal CT scan
- ❖ Abdominal/kidney MRI
- ❖ Abdominal x-rays

Types of Kidney Stones

The exact cause depends on the type of stone. There are different types of kidney stones. Stones can form when urine contains too much of certain substances. These substances can create small crystals that become stones. The stones take weeks or months to form.

- ❖ **Calcium stones** are most common. They are more common in men between age 20-30. Calcium can combine with other substances, such as oxalate (the most common substance), phosphate, or carbonate, to form the stone. Oxalate is present in certain foods such as spinach. It's also found in vitamin C supplements. Diseases of the small intestine increase your risk of these stones.
- ❖ **Cystine** can form in people who have cystinuria. This disorder runs in families and affects both men and women.
- ❖ **Struvite** stones are mostly found in women who have a urinary tract infection. These stones can grow very large and can block the kidney, ureter, or bladder.
- ❖ **Uric acid stones** are more common in men than in women. They can occur with gout or chemotherapy.

Complications

- ❖ Decrease or loss of function in the affected kidney
- ❖ Kidney damage, scarring Obstruction of the ureter (acute unilateral uropathy)
- ❖ Recurrence of stones
- ❖ Urinary tract infection

Diet and Nutrition in Kidney Stones (Renal Stones, Renal Calculi)

Drink at least 3 litres of water every day and even more in hot weather. Avoid or eat sparingly, food containing calcium oxalate (spinach, strawberries, tomatoes, grapefruit juice, apple juice, chocolate, celery, bell peppers, beans, asparagus, beets, soda, and all types of teas and berries).

Reduce uric acid by eating a low-protein diet.

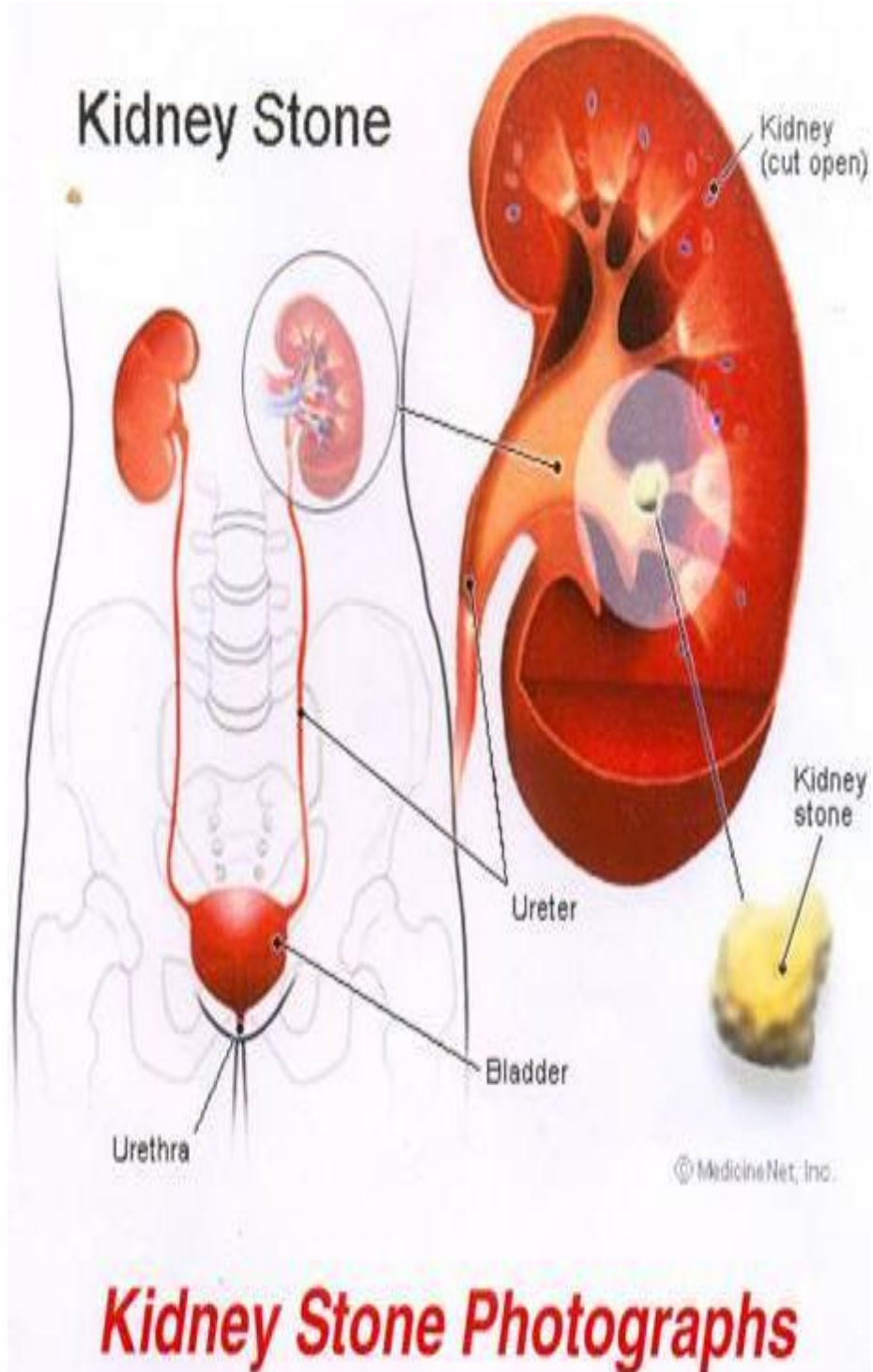
Reduce salt; Salt higher amounts may raise the level of calcium oxalate in your urine.

Avoid vitamin D supplements which can increase calcium oxalate levels.

-63

63- Curhan GC. Nephrolithiasis. In: Goldman L, Schaffer AI, eds. *Cecil Medicine*. 24th ed. Philadelphia, Pa:Saunders Elsevier; 2011:chap 128.

Kidney Stone



Kidney Stone Photographs

4. MATERIALS AND METHODS

NEERKATTU PARIKARA CHOORANAM

4.1 PREPARATION OF THE DRUG

NEERKATTU PARIKARA CHOORANAM

PREPARATION OF THE DRUG

(Neerkattu Parikara Chooranam)

Neerkattu Parikara choornam was selected in accordance with the reference book **Kannusamy Parambarai Vaithyam**, P.No.462

Collection of the test drugs:

The drug Padikaram, Venkaram, Induppu and Pooneeru was bought from the raw drug store at Nagercoil.

Nayuruvi Samoolam, Panampoo, Vazhai Sarugu were collected in and around Mettur dam and identified by the botanist.

Ingredients:

- Padikaram (Alumen)
- Venkaram (Borax)
- Induppu (Rock salt)
- Pooneeru (Fullers earth)
- Nayuruvi Samoolam (*Achyranthes aspera*)
- Panam Poo (*Borassus flabelliformis*)
- V azhai sarugu (*Musa Paradisica*)

PURIFICATION OF THE DRUG

Padikaram (Alumen)

The padikaram is fried deeply until it is free from its moisture content.

Venkaram (Borax)

The venkaram is fried deeply until it is free from its moisture content.

Induppu (Rock Salt, Sodium Chloride Impura)

Induppu is soaked in Kaadineer for 3 days, and then induppu is taken and dried in sun light.

Pooneeru (Fuller's Earth)

Pooneeru is dissolved in lime juice and kept undisturbed one day. The clear filtrate is separated and boiled in flame until the water dries up and Salt alone settles. This is purified pooneeru.

Nayuruvi Samoolam

Nayuruvi samoolam is taken and allowed to dry under shade.

Panam Poo

Panam poo is taken and allowed to dry under shade.

Vazhai Sarugu

Vazhi sarugu is taken and allowed to dry under shade.

PROCESS OF PREPARATION:

Nayuruvi samoolam, Panam poo, vazhai sarugu are dried separately in sun shade. The above three dried herbs should be separately burned in to ash. The three ashes should be ground well and mixed in equal quantity. Then purified padikaram, venkaram, induppu, pooneeru should be taken in equal amount, ground separately and mixed well. The total amount of purified karasarams should be equal to the total amount of mixed ashes. Finally the purified karasarams and ashes should be mixed together, ground well and filter it with clean white cloth and preserved in an air tight container.

Route of Administration:

Enteral route.

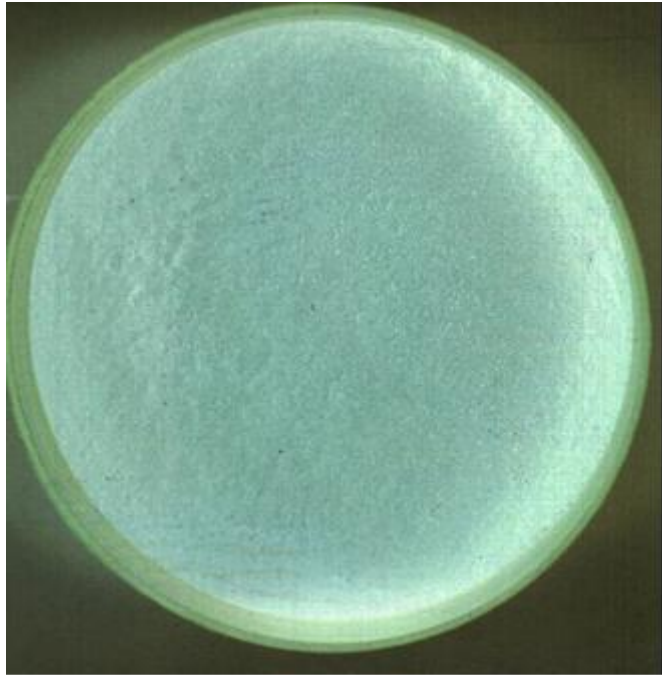
Dose:

390 mg twice daily before meals.

Adjuvant:

Honey

NEERKATTU PARIKARA CHOORANAM



4.2 STANDARDIZATION OF THE DRUG

NEERKATTU PARIKARA CHOORANAM

4.2 (a) PHYSIO CHEMICAL ANALYSIS

NEERKATTU PARIKARA CHOORANAM

PHYSICAL PROPERTIES*

The standardization parameters of Neer kattu parikara chooranam was done at Sastra university Thanjavur-401

The tests done are as follows.

pH at 1% of aqueous solution:

Five grams of Neer kattu parikara chooranam is weighed accurately and placed in clear 100 ml beaker. Then 50 ml of distilled water is added to it and dissolved well. Wait for 30 minutes and then apply in to pH meter at standard buffer solution of 4.0, 7.0 and 9.2

Loss on drying@ 105⁰ C:

Five gram of Neer kattu parikara chooranam is heated in a hot oven at 1000 C to constant weight. The percentage of loss of weight was calculated as 4.55%.

Determination of ash value:

Weighed accurately 2 grams of Neer kattu parikara chooranam in tarred platinum or silica dish and incinerate at a temperature not exceeding 450⁰C until free from carbon, cooled, and weighed. Calculate the percentage of ash as 32.27% with reference to the air dried drug.

Water soluble ash:

To the gooch crucible containing to the total ash, added 25 ml of water and boiled for 5 minutes. Collected the insoluble matter in a sintered glass crucible or on ash less filter paper. Wash with hot water and ignite in a crucible for 15 minutes at a temperature not exceeding 450⁰ C subtract the weight of the insoluble matter from the weight of the ash the difference of the weight represents the water soluble ash. Calculate the percentage of water soluble ash as 62.31% with reference to the air dried drug.



SHANMUGHA ARTS, SCIENCE, TECHNOLOGY & RESEARCH ACADEMY (SASTRA)

(A University established under Section 3 of the UGC Act, 1956)

SASTRA University Tirumalaisamudram, Thanjavur-613401.

Centre for Advanced Research in Indian System of Medicine (CARISM)



GOVT. APPROVED DRUG TESTING LABORATORY APPROVAL No. R.DIS.NO.:282/2010

CERTIFICATE OF ANALYSIS

Name of the Product: 097-Neer Kattu parihara Chooranam
Date of Sampling : 09.10.12

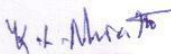
Report No : CAR/DTL/CUR064
Report Date: 18.12.12

PHYSICO-CHEMICAL STANDARDISATION

S.No	TESTS	AS PER ANALYSIS
1.	Description	Grey coloured powder
2.	pH(1% w/v solution)	8.27
3.	Bulk density	0.38gm/ml
4.	Tap density	0.66gm/ml
5.	Loss on Drying at 105°C	4.55%
6.	Total Ash	32.27%
7.	Acid insoluble ash	21.99%
8.	Water Soluble Extractive	62.31%
9.	Alcohol Soluble Extractive	9.89%

SIEVE ANALYSIS

S.No	Sieve No (μ)	% of particles retained
1.	600	1.6
2.	300	1.79
3.	150	8.2
4.	75	24.38
5.	Final product	63.9


ANALYST


LAB IN-CHARGE


ASSOCIATE DEAN & CO-ORDINATOR

4.2(b) BIO - CHEMICAL ANALYSIS

NEERKATTU PARIKARA CHOORANAM

BIO – CHEMICAL ANALYSIS OF NEERKATTU PARIKARA

CHLOORANAM

PREPARATION OF THE EXTRACT

5 gms of the drug was weighed accurately and placed in a 250ml clean beaker. Then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is made up to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S. NO.	EXPERIMENT	OBSERVATION	INFERENCE
1.	<u>TEST FOR CALCIUM</u> 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	No white precipitate is formed	Absence of calcium
2.	<u>TEST FOR SULPHATE:</u> 2ml of the extract is added to 5% barium chloride solution.	A white precipitate is formed	Indicates the presence of Sulphate
3.	<u>TEST FOR CHLORIDE</u> The extract treated with silver nitrate solution.	A white precipitate is formed	Indicates the presence of carbonate
4.	<u>TEST FOR CARBONATE</u> The substance is treated with concentrated Hcl.	No brisk effervescence formed	Absence of carbonate
5.	<u>TEST FOR STARCH</u> The extract is added with weak iodine solution.	No blue colour is formed	Absence of starch.

6.	<u>TEST FOR IRON FERRIC</u> The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of ferric Iron
7.	<u>TEST OF IRON FERROUS:</u> The extract is treated with concentrated Nitric acid and ammonium thio cynate solution.	Blood red colour is formed	Absence of ferric Iron.
8.	<u>TEST FOR PHOSPHATE</u> The extract is treated with ammonium Molybdate and concentrated nitric acid.	No yellow precipitate	Absence of Phosphate.
9.	<u>TEST FOR ALBUMIN</u> The extract is treated with Esbach's reagent.	No yellow precipitate is formed	Absence of Albumin
10.	<u>TEST FOR TANNIC ACID</u> The extract is treated with ferric chloride.	No blue black precipitate is formed	Absence of unsaturated compound.
11.	<u>TEST FOR UNSATURATION</u> Potassium permanganate solution is added to the extract.	It does not get decolourised	Absence of unsaturated compound.

12.	<p><u>TEST FOR THE REDUCING SUGAR</u></p> <p>5ml of Benedicts' qualitative solution is taken in a test tube and allowed to boil of 2mts and added 8-10 drops of the extract and again boil it for 2 mts.</p>	No colour change occurs.	Absence of Reducing sugar,.
13.	<p><u>TEST FOR AMINO ACID</u></p> <p>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninnydrin is sprayed over the same and dried it well.</p>	No violet colour is formed	Absence of Amino acid.
14.	<p><u>TEST FOR ZINC:</u></p> <p>The extract is treated with Potassium Ferrocyanide.</p>	No white precipitate is formed	Absence of zinc.

Inference:

The given sample of “Neerkattu Parikara Chooranam” contains sulphate, carbonate, Ferrous iron.

4.2 (c) MICROBIOLOGICAL ANALYSIS

NEERKATTU PARIKARA CHOORANAM

ANTI – MICROBIAL (BACTERIAL) ACTIVITY OF NEERKATTU PARIKARA CHOORANAM

Aim

To identify the anti-microbial (Bacterial) activity of Neerkattu Parikara chooranam against Streptococcus, Staphylococcus, Proteus, Pseudomonas, E.coli.

Medium:

Muller Hinton agar

Components of Medium

Beef extract	:	300gms/lit
Agar	:	17gms/lit
Starch	:	1.50gms/lit
Casein Hydroxylate	:	17.50gms/lit
Distilled Water	:	1000 ml
pH	:	7.6

Procedure

The media was prepared from the above components and poured and dried on Petri dish. The organism was streaked on the medium and the test drug (1gm drug in 10ml of Water) was placed on the medium. This is incubated at 37⁰C for one over night and observed for the susceptibility shown up clearance around the drug.

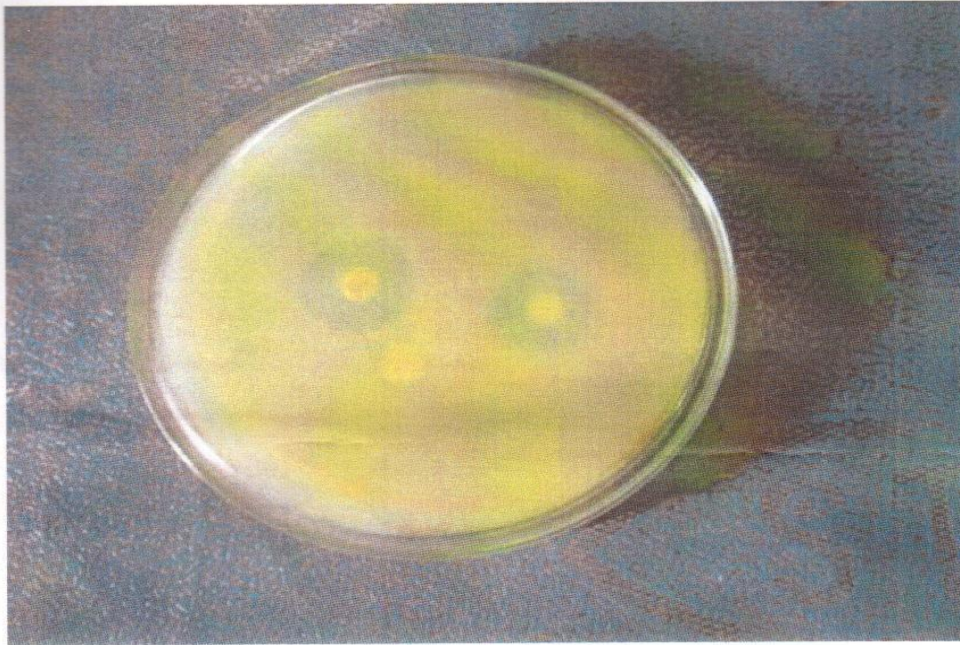
Table : Anti-microbial susceptibility test report

No.	Organism	Susceptibility	Zone of inhibition in mm
1.	Staphylococcus	Resistant	-
2.	Pseudomonas	Sensitive	8mm
3.	E.coli	Resistant	-
4.	Klebsiella	Resistant	-
5.	Proteus	Resistant	-
6.	Streptococcus	Sensitive	8mm
7.	Candida	Resistant	-

Result

The test drug **Neerkattu Parikara Chooranum** was sensitive against **Pseudomonas** and **Streptococcus**

STREPTOCOCCUS



PSEUDOMONAS



4.2 (d) PHARMACOLOGICAL
&
TOXICOLOGICAL ANALYSIS
NEERKATTU PARIKARA CHOORANAM

**PRECLINICAL PHARMACOLOGICAL & TOXICOLOGICAL
STUDIES OF NEERKATTU PARIAKARA CHOORNAM (NPC) ON
ETHYLENE GLYCOL INDUCED UROLITHIASIS IN RATS
MATERIALS AND METHODS**

1.1 Test Drugs

The following medicine used in the study was processed by the methods prescribed in standard text books of siddha medicine..

NeerkattuParikaraChoornam(NPC) was prepared by the method prescribed in the text book of siddha medicine Kannusamy Parambarai Vaidhyam.

1.2 Preparation of drug for dosing

All drugs used for the study was suspended each time with 1% (w/v) solution of CMC

1.3 Drugs and chemicals

Fine chemicals used in these experiments were obtained from Sigma Chemicals Company, U.S.A. Other analytical grade chemicals were obtained from S.d. Fine Chemicals Ltd., Mumbai. Standard drug Cystone(Himalya Drug Company product) procured from market.

1.4 Experimental animals

Colony inbred wistar rats of either sex weighing 200 - 250 g were used for the pharmacological and toxicological studies. The animals were kept under standard conditions 12:12 (day/night cycles) at 22⁰C room temperature, in polypropylene cages. The animals were fed on standard pelleted diet (TANUVAS, Chennai) and tap water *ad libitum*. The animals were housed for one week in polypropylene cages prior to the experiments to acclimatize to

laboratory conditions. The experimental protocol was approved by the Institutional Animal Ethical Committee

1.5 Acute oral toxicity study

Acute oral toxicity was conducted as per the OECD guidelines (Organization of Economic Cooperation and Development) 423 (Acute Toxic Class Method). The acute toxic class method is a stepwise procedure with 3 animals of a single sex per step. Depending on the mortality and /or moribund status of the animals, on the average 2-4 steps may be necessary to allow judgment on the acute toxicity of the test substance. This procedure results in the use of a minimal number of animals while allowing for acceptable data based scientific conclusion.

The method uses defined doses (5, 50, 300, 2000 mg/kg body weight) and the results allow a substance to be ranked and classified according to the Globally Harmonized System (GHS) for the classification of chemicals which cause acute toxicity. Female Wistar albino rats weighing 200-250 g were fasted overnight, but allowed water *ad libitum*. Wistar albino rats of female sex weighing 200-250 g were fasted overnight, but allowed water *ad libitum*. Since the formulation is relatively nontoxic in clinical practice the highest dose of 2000 mg/kg/p.o (as per OECD guidelines “Unclassified”) was used in the acute toxicity study.

The animals were observed closely for behavioral toxicity, if any by using FOB (Functional observation battery).

2.6 Repeated oral toxicity study

Repeated oral toxicity studies can be used to get additional information regarding the toxicity profile of a chemical. Repeated oral toxicity studies are defined as those studies where the chemical is administered to the animal for a period covering approximately 10% of the expected life of the animal. Usually, the dose levels are lower than for acute studies and allow chemicals to accumulate in the body before lethality occurs, if the chemical possess this ability.

Experimental procedure

The following experimental procedure was followed to evaluate the repeated oral toxicity study of **NPC**

Group I : *Control animals received 1%CMC, 2 ml/kg/p.o.for 28 days

Group II : *Received NPC at the dose of 70mg/kg/po in 1%CMC for 28 days

The dose for rats was calculated by multiplying the daily dose used in the clinical practice(i.e.390mg BID=780mg/day) divided by a factor 0.018 corresponding to the body surface area of man weighing 70kg to rat weighing 200g.

Single dose 390mg, Daily dose $780\text{mg} \times 0.018 = 13.84\text{mg}$ for a rat weighing 200g. Multiply the rat dose for a rat weighing 200g x5 to get the dose for kg/body weight of rat (i.e. $13.8\text{mg} \times 5=69.2\text{mg/kg/po}$, rounded off to 70mg/kg/po)

Group I and II animals used for the chronic toxicity study for 28 days were part of the animals used in the experimental protocol for the urolithitic study of NPC (Table-). Blood samples were collected at the end of 28 days from the respective groups to study the biochemical and hematological parameters

Body weight, food intake and water intake was recorded at two intervals with simultaneous observation for toxic manifestation and mortality, if any. At the end of 28 days treatment blood samples were collected by retro orbital puncture and used for hematological studies and serum was used for biochemical studies

2.7. Biochemical studies

Aspartate aminotransferase (AST)

Aspartate aminotransferase was estimated using commercial AST kit (Span Diagnostics) by the method of Reitman and Frankel (2).

Alanine aminotransferase (ALT)

Alanine aminotransferase was estimated using commercial AST kit (Span Diagnostics) by the method of Reitman and Frankel (2)).

Alkaline phosphatase (ALP)

Alkaline phosphatase was assayed using commercial ALP kit (Span Diagnostics) by the method of King (3).

2.8 Hematological studies

Erythrocyte count

Erythrocyte count was estimated by Hemocytometer method of Ghai (4).

Total Leukocyte Count (WBC)

Total Leukocyte Count was estimated by Hemocytometer method of John (5).

Hemoglobin

Hemoglobin was estimated by method of Ghai (4).

Experimental animals

Male albino rats of wistar strain weighing between 200-250gm were used, the animals were fed with commercial rat feed pellets(Tanuvas,Chennai) and water *ad libitum*. Animals were housed in plastic cages with filter tops under controlled conditions of 12:12 light dark cycle, 50 humidity and 28 c. All animal experiments and maintenance Were carried out according to the ethical guidelines suggested by the IAEC of C.L.Baid Metha College of Pharmacy, Chennai.

Urolithiatic activity

Animals were divided in to five groups containing six animals in each group.

Group I -served as normal control and received 1%CMC 10ml/kg/po for 28 days

.Group-II received Ethylene glycol (0.75%) in drinking water for 28 days and served as negative control.

Groups III- received EG (0.75%) in drinking water for 28 days and also received the test drug NPC(70mg/kg/posimultaneously for 28 days.

Group-IV animals received EG in the same dose and period mentioned for group III and simultaneously receivedCystone)500mg/kg/po

Group-V received NPC alone as 1% suspension in CMC at the dose of 70mg/kg/po orally daily for 28 days

1. All drugs were suspended in CMC daily before use. All drugs were given once daily by oral route using blunt metal needle fitted with PVC tube. At the end of experimental period blood was collected by retro orbital puncture and transferred to tubes containing sodium citrate. Serum was separated and used for the analysis of calcium, magnesium, oxalate, inorganic phosphate, protein using standard experimental procedures. (6).

Assessment of Antiurolithiatic Activity

Collection and analysis of urine

All the animals were kept in individual metabolic cages and urine samples of 24 h were collected on the 28th day. Animals had free access to drinking water during the urine collection period. A drop of concentrated hydrochloric acid was added to the urine before being stored at 4°C. Urine was analyzed for calcium, phosphate, and oxalate content using the method of Bahuguna *et al.*(7)

Serum analysis

After the experimental period, blood was collected from the retro-orbital under anaesthetic condition and animals were sacrificed by cervical decapitation. Serum was separated by centrifugation at 10 000 × g for 10 min and analyzed for creatinine, uric acid, and urea nitrogen using the method of Borghi(8)

Urine volume

Animals were placed in separate metabolic cages for 24 h and total urinary volume was measured using the measuring cylinder and reported in ml.(9)

Urine pH

Uric acid crystals were found to deposit most frequently in the concentrated acid urine. Thus, the acidity of the urine was tested using the pH meter.(9)

Statistical Analysis

Statistical evaluation was done using Student ‘t’ test. Significance was set at $P < 0.05$. Results are presented as mean \pm standard error of mean (SEM).

2.0 Results

2.1. Acute oral toxicity study

NPC at the dose of 2000mg/kg/po did not exhibit mortality in rats., hence further study with higher dose was not performed with NPC.According to OECD guidelines the drug is identified as “Unclassified “under the toxicity scale.

2.2 Repeated oral toxicity for 28 days

Test drug NPC at the dose of 70mg/kg/po when administered orally for 28 days in rats did not show significant toxicity in Hematological, liver and kidney function tests (Tables, 1 and 2).

2.3 Lithotriptic effect of NPC

Administration of 0.75% Ethylene glycol (EG) for 28 days in drinking water resulted in hyperoxaluria in rats as evidenced by the results of the study. Oxalate, calcium and phosphorous excretion were increased in EG treated rats. The blood urea nitrogen and serum creatinine levels were increased in rats treated with EG

Administration of the test drug NP C at the dose of 70mg/kg/po for 28 days concurrently with EG significantly lowered the levels of oxalate, calcium and phosphorous in urine when compared to EG alone treated rats. The results of test drug NPC can be compared to that of standard drug Cystone. The treatment with NPC also significantly reduced the elevated levels serum creatinine and Blood urea nitrogen, evidently proves the protective action of NPC against EG induced urolithiasis in rats. Histopathological study of kidney showed the lesser nucleation of oxalate crystals in NPC treated animals when compared to untreated animals. Urine volume was increased in animals treated with NPC and cystone with a acidic pH and this may be accounted for the reduced crystallization of oxalate and expedited elimination from the urine

The test drug NPC alone at the dose of 70mg/kg/po administered for 28 days to evaluate the toxicity, if any per se on long term use did not show evidence of liver, kidney injury and hematopoietic system toxicity.

3.0 Discussion

Hypoxaluria is a significant risk actor in the pathogenesis of renal calculi than hypercalcuria. In the present study urinary oxalate was increased in the EG induced urolithiasis in rats. It has been reported that oxalate plays a important role in stone formation and has about 15 times greater effect than urinary calcium(10)

The study with urinary chemistry with respect to the stone forming minerals will provide a good indication of the risk stone formation. Hypercalcaemia in EG induced urolithic rats might be a factor favouring the nucleation and precipitation of calcium oxalate from urine and subsequent crystal growth. Urinary magnesium was significantly reduced in EG induced urolithic rats. Magnesium complexes with oxalate, thus reducing calcium oxalate supersaturating in urine and as a consequence the nucleation rate of calcium oxalate crystals is reduced (11). Uric acid is known to promote calcium oxalate crystal growth (12). In the present study, higher concentration of urinary uric acid was observed in EG induced rats. Test drug treatment restored the uric acid level to near normal thus reducing risk of stone formation. A gradual increase in urinary phosphorous excretion was observed in EG Induced urolithic rats. Increased phosphorous excretion has been reported in stone formation in clinical practice (13).

HP slides of kidney

Microscopic examination of kidney section derived from EG induced urolithic rats showed irregular crystal deposits inside the tubules which causes dilation of the proximal tubules along with interstitial inflammation thus might be attributed to oxalate formation (Plate-2). The presence of such deposits is an evidence of adhesion and retention of crystals within renal tubules. EG induced urolithic rats treated with cystone and test drug had increased the solubilisation of oxalate crystals and restored the normal architecture of kidney (Plate 3 and 4).

Summary & Conclusion

Ethylene glycol induced urolithiasis is a standard test procedure to evaluate the drugs with antilithiatic effect in rats..Herbal drugs have an edge over allopathic drugs in resolution of stones and many good herbal formulations are available in Siddha medicine formulary. One such formulation Neer Kattu PariharaChoornam (NPC) was evaluated for its antiurolithiatic effect in rats and found to be effective. NPC exhibited a significant antiurolithitic effect established by biochemical parameters of urine and blood samples and histopathological studies. Now a correlation between the preclinical study and clinical outcome should be established to develop YN C as a potential candidate for the treatment of kidney stones.

Plate-1 Normal control animal(kidney section)

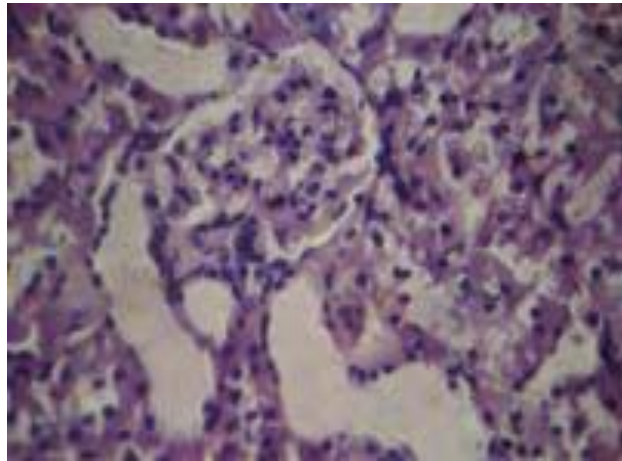
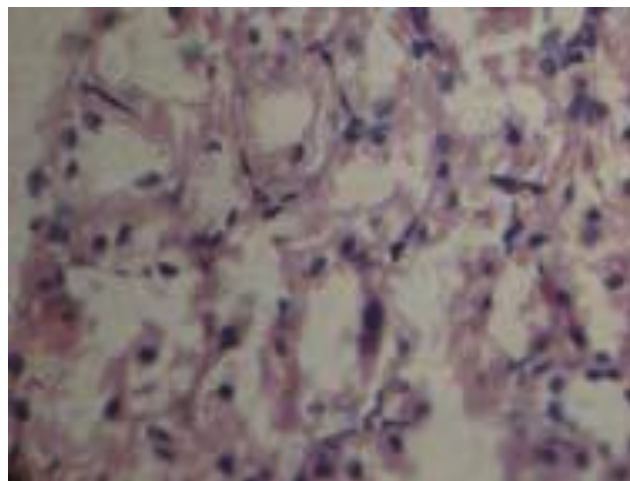
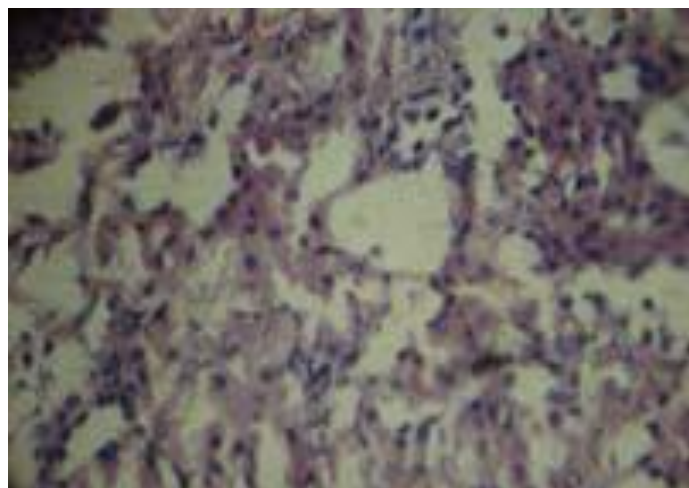


Plate-2 Animals treated with EG x 28 days(kidney section)



**Plate-3 Animals treated with EG+Cystone for 28 days
(kidney section)**



**Plate-4 Animals treated with EG+NPC for 28days
(kidney section)**

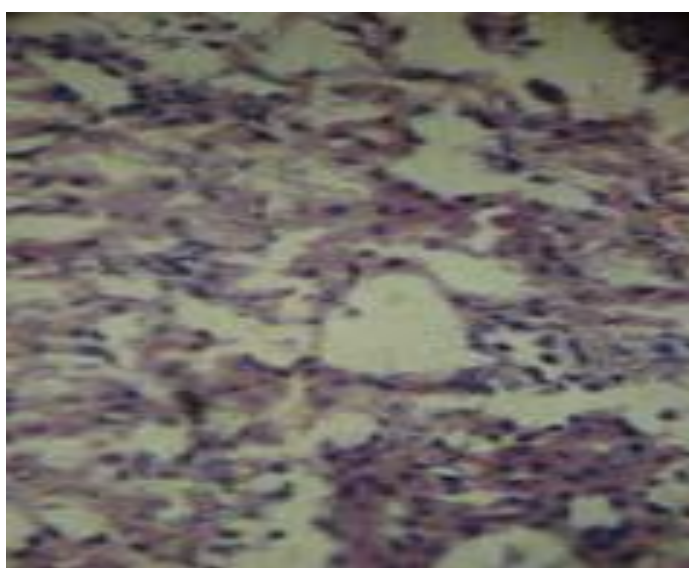


Table-1
Effect of Siddha Formulations (NPC) on Hematological parameters after 28days repeated oral dosing (70 mg/kg)

Groups	Hb (gm/100ml)	RBC (millions/ cu.mm)	WBC (cells/cu.m m)	Differential leucocyte count (%)		
				Lymphocytes	Mono cytes	Granulo cytes
Normal	13.23 ± 0.56	4.59 ± 0.565	5650.08 ± 9.43	76.06 ± 3.27	5.610 ± 1.27	19.84 ± 4.647
NPC(70 mg/kg/p o	14.02 ± 0.621 ^{ns}	4.98± 0075 ^{ns}	5998.06 ±1.682	79.16 ±0.64 ^{ns}	5.816± 1.57 ^{ns}	16.06 ±1.31 ^{ns}

n=6; Values are expressed as mean ± S.E followed by Students Paired 'T' Test
 ns – non significant when compared to control groups

Table-2
Effect of Siddha formulation (NPC) on Biochemical markers of liver and kidney after 28 days repeated oral dosing (70mg/kg/po) in rats

Groups	AST(IU/ L)	ALT(IU/ L)	ALP(IU/ L)	BUN(mg/dl)	Creatinine(mg/ dl)
Normal	72.64 ± 0.349	30.64 ± 0.821	158.45 ± 0.64	30.16±1.45	0.70±0.01
NPC(70mg/kg/ po)	77.40 ± 0.06 ns	31.13 ± 0.604 ^{ns}	150.25 ±0.45ns	29.06±0.07 ns	0.81±0.01ns

N=6; Values are expressed as mean ± S.E followed by Students Paired 'T' Test
 Ns – non significant when compared to control groups

Table-3

Effect of NPC on Urinary level of Oxalate, calcium and phosphate after treatment with SMP (70mg/kg/po) in EG induced Urolithiasis

Grop and dose	Oxalate(mg/g)	Calcium(mg/g)	Phosphate(mg/g)
Group-1 Normal control	0.32±0.052	0.36±0.31	3.77±0.07
Group-2 Urolithic control	3.94±0.61***a	4.28±0.19***a	7.02±0.05***a
Group-3 Cystone (500mg/kg/po)treated	0.48±0.02***b	1.44±0.01***b	3.31±0.02***b
Group-4 NPC(70mg/kg/po) treated	0.84.05±0.05***b	1.76±0.04***b	3.98±0.15***b

n= 6 animals values mean±SEM, ***p<0.001a: Control(group-1) vs. Ethylene glycol induced urolithitic rats(group-2)b: Goup-2 vs. group 3 and 4

ANALYSIS OF DIURETIC EFFECT OF NEERKATTU PARIKARA CHOORANAM

AIM

To evaluate the diuretic effect of **Neerkattu Parikara Chooranam**.

Preparation of the test drug

1gm of Neerkattu Parikara Chooranam extract was dissolved in 10ml of distilled water, thus 1ml contains 100mg Neerkattu Parikara Chooranam.

Procedure

The method of Lipschitz et al. was employed for the assessment of diuretic activity. Groups of 9 male albino rats, each weighing 80-120gm were fasted and deprived of water for 18 hours prior to the experiments. They were divided into 3 equal groups of 3 rats each and put into 3 different metallic cages. On the day of the experiment all the animals were given normal saline orally 2.5ml/ 100mg body weight. Group I served as the negative control which received only normal saline 2.5ml/100gm. Group II received Frusemide 2mg/ 100gm as reference diuretic and Group III received test drug at a dose of 100gm orally, 1 hour prior to the administration of normal saline.

Immediately after dosing, the animals were placed in metabolic cages specially designed to separate urine and faeces and kept at room temperature of $25^{\circ} \pm 0.5^{\circ} \text{C}$. The urine was collected in measuring cylinder upto 5 hours after dosing. During this period no water and food was made available to the animals. The total volume of urine collected was measured for the control and treated groups.

Diuretic effect of Neerkattu Parikara Chooranam

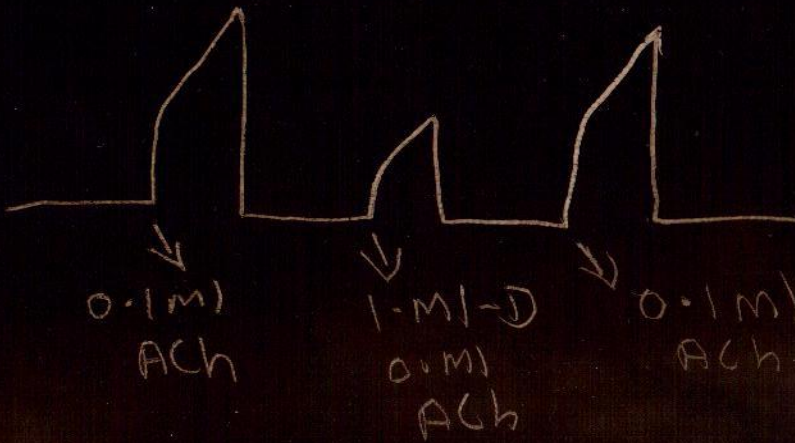
S. No.	Name of the Drugs/ Groups	Dose/ 100gram body weight	After Drug Administration		
			1 ½	3 hours	4 ½ hours
1.	Control (Saline)	5ml	3.0ml	5ml	6ml
2.	Neerkattu Parikara Chooranam	100mg	4ml	9ml	14ml

Inference

From the above experience, it was inferred that the drug extract of **Neerkattu Parikara Chooranam** has got **significant diuretic action**.

**ANTISPASMODIC ACTION - NEERKATTU PARIKARA
CHOORANAM**

Anti spasmodic action
Drug- Neer kattu parihara
Chooranam



4.2 (e) SCANNING ELECTRON MICROSCOPIC ANALYSIS (SEM)

NEERKATTU PARIKARA CHOORANAM

SEM – SCANNING ELECTRON MICROSCOPE:



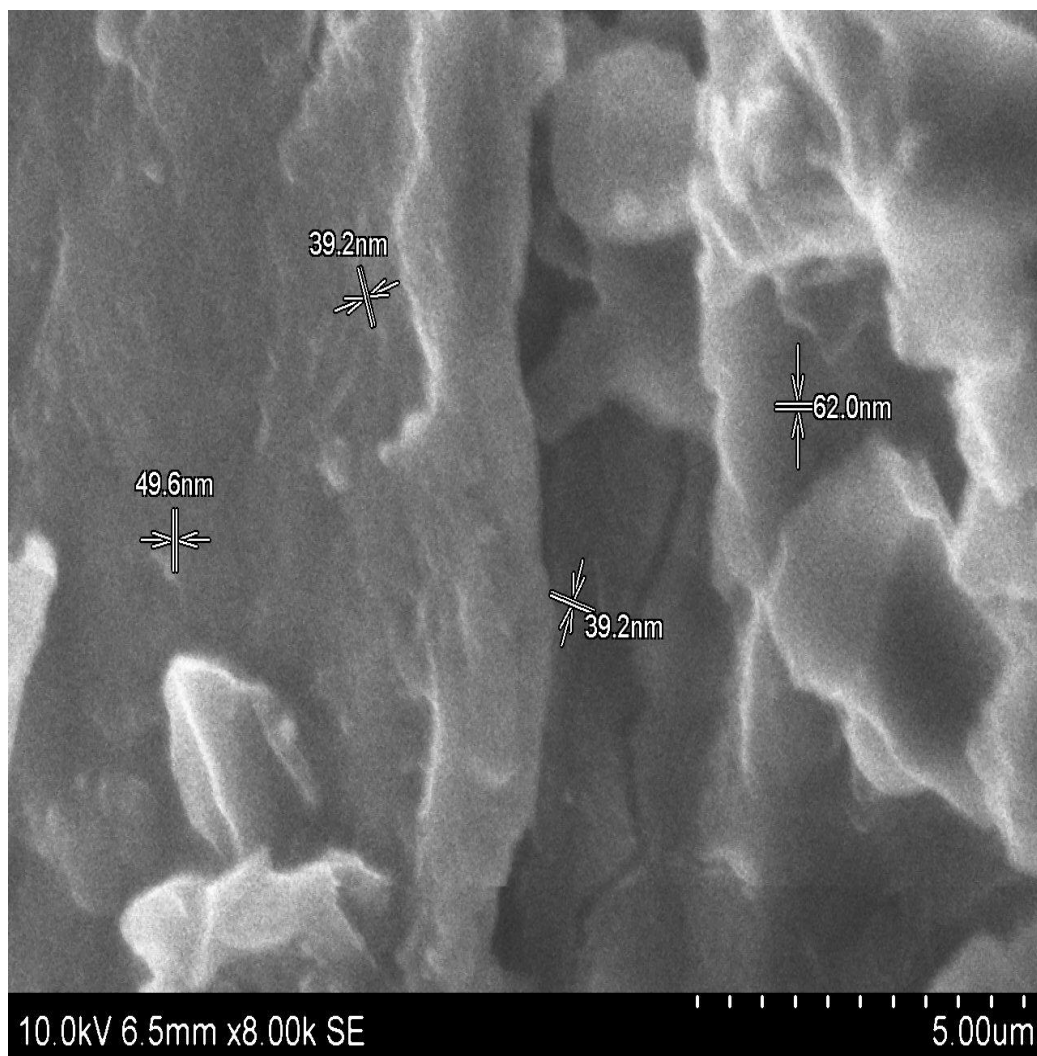
SEM OPENED SAMPLE CHAMBER

A **scanning electron microscope (SEM)** is a type of [electron microscope](#) that produces images of a sample by scanning it with a focused beam of [electrons](#). The electrons interact with electrons in the sample, producing various signals that can be detected and that contain information about the sample's surface [topography](#) and composition. The electron beam is generally scanned in a [raster scan](#) pattern, and the beam's position is combined with the detected signal to produce an image. SEM can achieve resolution better than 1 nanometer. Specimens can be observed in high vacuum, low vacuum and in environmental SEM specimens can be observed in wet condition.

Principles and capacities

The types of signals produced by a SEM include [secondary electrons](#) (SE), [back-scattered electrons](#) (BSE), [characteristic X-rays](#), light ([cathodoluminescence](#)) (CL), specimen current and transmitted electrons.. In the most common or standard detection mode, secondary electron imaging or SEI, the SEM can produce very high-resolution images of a sample surface, revealing details less than 1 [nm](#) in size.

SCANNING ELECTRON MICROSCOPIC ANALYSIS (SEM)



SEM Graphs shows the average size of the particle in Neerkattu parikara chooranam is **47.5 nm**

**4.2 (f) FOURIER TRANSFORM INFRA RED
SPECTROSCOPY ANALYSIS (FTIR)**

NEERKATTU PARIKARA CHOORANAM

FOURIER TRANSFORM INFRARED SPECTROSCOPY

Fourier transform infrared spectroscopy (FTIR)^[1] is a technique which is used to obtain an infrared spectrum of absorption, emission, photoconductivity or Raman scattering of a solid, liquid or gas. An FTIR spectrometer simultaneously collects spectral data in a wide spectral range. This confers a significant advantage over a dispersive spectrometer which measures intensity over a narrow range of wavelengths at a time. FTIR has made dispersive infrared spectrometers all but obsolete (except sometimes in the near infrared), opening up new applications of infrared spectroscopy.

The term *Fourier transform infrared spectroscopy* originates from the fact that a Fourier transform (a mathematical process) is required to convert the raw data into the actual spectrum. For other uses of this kind of technique, see Fourier transform spectroscopy.

Applications

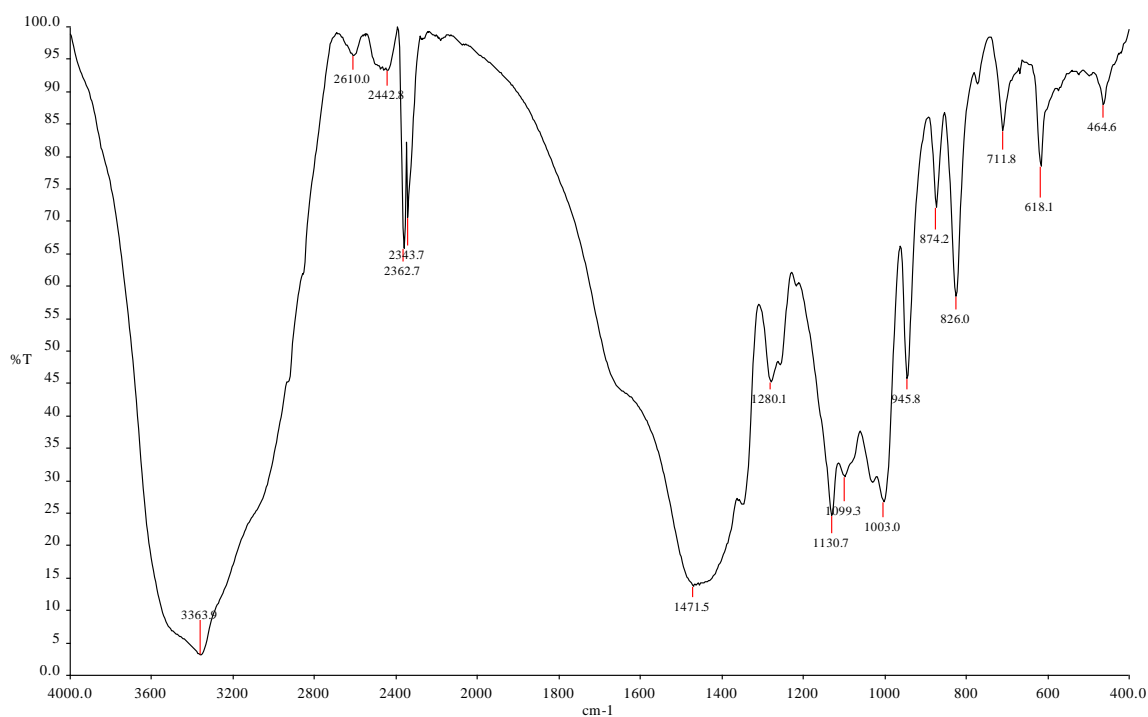
FTIR can be used in all applications where a dispersive spectrometer was used in the past. In addition, the multiplex and throughput advantages have opened up new areas of application. These include:

- ❖ GC-IR (gas chromatography-infrared spectrometry).
- ❖ TG-IR (thermogravimetry-infrared spectrometry)
- ❖ Micro-samples.
- ❖ Emission spectra.
- ❖ Photocurrent spectra.

Applications

This instrument covered the wavelength range from 2.5 μm to 15 μm (wavenumber range 4000 cm^{-1} to 660 cm^{-1}). The lower wavelength limit was chosen to encompass the highest known vibration frequency due to a fundamental molecular vibration. The upper limit was imposed by the fact that the dispersing element was a prism made from a single crystal of rock-salt (sodium chloride) which becomes opaque at wavelengths longer than about 15 μm ; this spectral region became known as the rock-salt region. Later instruments used potassium bromide prisms to extend the range to 25 μm (400 cm^{-1}) and caesium iodide 50 μm (200 cm^{-1}). The region beyond 50 μm (200 cm^{-1}) became known as the far-infrared region; at very long wavelengths it merges into the microwave region.

Neerkattu Parihara Chooranam



Neerkattu Parihara Chooranam 30.10.12.pk

3363.9 3.1 2610.0 95.5 2442.8 93.2 2362.7 65.7 2343.7 70.5

1471.5 13.7 1280.1 45.2 1130.7 24.6 1099.3 30.7 1003.0 26.8

945.8 45.6 874.2 72.1 826.0 58.5 711.8 84.0 618.1 78.4

464.6 88.0

comment

600-800-out of plane bending alcohol or phenolic groups present in the compounds, 3363 is due to -O-H functional group, 2442 and 2610 is due to N-H band, 2362 and 2343 is due to acid group, 1471 is due to alkanes or weak alkanes, 1280 is due to C=O functional, 1130 is due to R-O-R group or C-O stretching vibrations,

**4.2 (g) INDUCTIVELY COUPLED
PLASMA OPTICAL EMISSION
SPECTROMETRY(ICP-OES):**

NEERKATTU PARIKARA CHOORANAM

ICP OPTICAL EMISSION SPECTROMETRY METHODOLOGY

ICP, abbreviation for Inductively Coupled Plasma, is one method of optical emission spectrometry. When plasma energy is given to an analysis sample from outside, the component elements (atoms) are excited. When the excited atoms return to low energy position, emission rays (spectrum rays) are released and the emission rays that correspond to the photon wavelength are measured. The element type is determined based on the position of the photon rays, and the content of each element is determined based on the rays' intensity.

To generate plasma, first, argon gas is supplied to torch coil, and high frequency electric current is applied to the work coil at the tip of the torch tube. Using the electromagnetic field created in the torch tube by the high frequency current, argon gas is ionized and plasma is generated. This plasma has high electron density and temperature (10000K) and this energy is used in the excitation-emission of the sample. Solution samples are introduced into the plasma in an atomized state through the narrow tube in the center of the torch tube.

Sample preparation:

1. ICP-OES instrument can analyze concentration of metal ions and a few non metal ions of solids or liquid samples
2. Solids can not be analyzed directly. Such samples should be made into clear aqueous medium quantitatively.
3. Ideal concentration is around 100 ppm of the element of interest.
4. Total dissolved solids should be not more than 0.2% w/v in the final solution.
5. In ICP intensity of light emitted when the sample “sprayed or aspirated into an argon plasma” is measured at different wavelengths.

SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

IITM,CHENNAI-36

PERKIN ELMER OPTIMA 5300DV ICP-OES

SampleID	Analyte	Mean
-----------------	----------------	-------------

BDL=Below detection limit

Neer Kattu Parikara Chooranam-----

	As193.696	BDL
	B 249.773	128.478mg/L
	Cd 226.502	BDL
	Cu 324.754	05.184 mg/L
	Co 228.616	04.414 mg/L
Fe 238.204	13.258 mg/L	
	Hg253.652	BDL
	Na 589.592	250.168 mg/L
	Ni 58.693	BDL
	Pb 230.204	BDL
	Sb 206.833	14.281mg/L
Si 251.611	24.785 mg	

4.3 CLINICAL ASESMENT

NEERKATTU PARIKARA CHOORANAM

CLINICAL ASSESSMENT

In this dissertation a clinical trial was done on 40 patients for the Lithotriptic action of **NEERKATTU PARIKSARA CHOORANAM** on Kalladaippu noi. This clinical study was carried out at Out-patients ward of the Post Graduate Department of Gunapadam, Government Siddha Medical College Hospital, Palayamkottai.

Patients were thoroughly examined and enquired and all the clinical features, complete history, food habits, occupational history and previous illness were recorded.

CASE SELECTION

Selection of the patients for Kalladaippu noi were subjected for thorough Clinical examination and routine microscopic tests. Ultrasonogram- Abdomen and Pelvis was taken to confirm the diagnosis.

INCLUDING CRITERIA FOR CASE SELECTION

- ❖ Pain abdomen
- ❖ Pain in the loin, radiates to groin
- ❖ Burning micturation
- ❖ Frequency of micturation
- ❖ Dysuria
- ❖ Intermittent dull pain in the loin
- ❖ Low back pain
- ❖ Presence of crystals in the urine
- ❖ Ultrasonogram – Abdomen and Pelvis-Positive result for calculus.
- ❖ Haematuria
- ❖ Fever
- ❖ Nausea
- ❖ Vomiting

EXCLUDING CRITERIA

- ❖ Urinary calculus with severe haematuria
- ❖ Urinary calculus with acute severe pain
- ❖ Urinary calculus with renal failure

PARAMETERS FOR CASE SELECTION

- ❖ Clinical Examination
- ❖ Lab Investigations

Blood Examinations

Total Count
Differential Count
Polymorphis
Lymphocytes
Eosinophils
Haemoglobin
Erythrocyte Sedimentation Rate
Blood sugar
Blood urea

Urine Examinations

Albumin
Sugar
Deposits

- ❖ **Ultrasonogram** – Abdomen and Pelvis

LINE OF TREATMENT

The drug Neerkattu Parikara Chooranam was administered orally in a dose of 390mg. two times a day with honey before meals.

DIET AND MEDICAL ADVIVE

- ❖ Advised to take plenty of water. (more than 3-4 litres per day)
- ❖ Advised to take large amount of vegetables rich in water content like watermelon, raddish, carrot, bottle guard, papaya.
- ❖ Advised to avoid cabbage, tomato, cauliflower, plums, strawberry, egg.
- ❖ Advised to take less amount of milk, and milk products like ice cream etc.
- ❖ Advised to avoid coffee and tea.

OBSERVATION

The Lithotriptic action of Neerkattu Parikara Chooranam was observed on the basis of the relief of symptoms, and this was done by USG –Abdomen and Pelvis.

Among the complaints of Kalladaippu noi radiating pain, burning micturation, dysuria were reduced significantly within 7 days. Other symptoms were gradually reduced during the remaining course of treatment.

The clinical improvements were recorded for every seven days. The laboratory investigations and Ultrasonogram-Abdomen and Pelvis were done for the patients before and after treatment. At last the prognosis was noted.

RESULTS

Among 40 patients selected, 29 patients (72.5%) showed Good response, 8 patients (20%) showed Fair response and remaining 3 patients (7.5%) showed Poor response.

I. TABLE ILLUSTRATING THE SEX DISTRIBUTION

S.No.	Sex	No.of Patients	Percentage(%)
1.	Male	32	80
2.	Female	8	20
	Total	40	100

II. TABLE ILLUSTRATING THE AGE DISTRIBUTION

S.No.	Age in Years	No. of Patients	Percentage(%)
1.	21-30	4	10.0
2.	31-40	9	22.5
3.	41-50	17	42.5
4.	51 and above	10	25.0
	Total	40	100

III. TABLE ILLUSTRATING THE DURATION OF THE TREATMENT

S.No.	Days	Good Response	
		No. of Patients	Percentage (%)
1.	upto 20 days	-	-
2.	21-30 days	13	32.5
3.	31-40 days	6	15
4.	31-40 days	14	35
5.	5-60 days	3	7.5
6.	61-70 days	4	10
	Total	40	100

IV. TABLE ILLUSTRATING THE DIAGNOSIS OF THE PATIENTS

S.No.	Diagnosis	No.of Patients	Percentage (%)
1	Renal calculi	36	90
2	Ureteric calculi	3	7.5
3	Vesical calculi	1	2.5
	Total	40	100

V. TABLE ILLUSTRATING THE SIZE OF THE CALCULI

S. No.	Size	No.of Patients	Percentage (%)
1	0-5mm	15	37.5
2	above 5mm-1cm	22	55
3	above 1cm	3	7.5
	Total	40	100

VI. TABLE ILLUSTRATING THE PROGNOSIS

S. No.	Prognosis	No.of Patients	Percentage (%)
1	Good	29	72.5
2	Fair	8	20
3	Poor	3	7.5
	Total	40	100

EXPELLED URINARY STONE

Sl. No.25 O.P No:86692 Name: **Mr.Gnana Jeba Prakash** Age:26 Sex:Male

From : 31.10.2012 to 08.12.2012 No. of days treated: 38 days

Diagnosis : **Kalladaippu**. Drug: **Neerkattu Parikara Chooranam** 390 mg honey

Ultrasonogram of abdomen and pelvis

Before Treatment	After Treatment
RT.Kidney measures 10.1X4.6cms. A calculus of size 5.3mm seen in the mid pole of right kidney.	Rt. Kidney; Normal No calculus Lt. Kidney: Normal No calculus
L.T.Kidney measures 10.0x4.5cms. A calculus of size 4mm seen in the lower pole of left kidney. Cortico medullary differentiation is maintained on both sides. Pelvicalyceal system on both sides appears normal.	UB: Normal Impression: Normal Study
BLADDER: Is normal contour. No intra luminal echoes are seen. Urinary bladder wall is thickened and measures 5.5mm.	OBSERVATION: GOOD RESPONSE

4.4 BIO STATISTICAL ANALYSIS

NEERKATTU PARIKARA CHOORANAM

BIO STATISTICAL ANALYSIS

Aim:

The study subjects and the effectiveness of the drugs were analyzed as mean standard deviation and percentages. The interpretations were made on the basis of student; test “t” test. The S.P.S.S. Package was used for the above analysis and interpretations.

Results And Discussions

The study subjects were analysed based on their age and sex. Since the age and sex were independently variable.

Age and sex

The study subjects selected from the study are 40 in number. Among them 32 are male and 8 are female. They are described by their age and sex as follows.

Age and sex wise distribution of study subjects shown in Table 1

S.No	Sex	n	Age		“t”	significance	95% C.I. of the poluation mean
			mean	Std. deviation			
1	Male	32	48.22	16.35	1.269	P<0.1	42.92 to 52.92
2	Female	8	41.62	16.77			
3	Total	40	45.92	16.61			

The above table clearly show that the mean age of the male clinical trial is 48.22 ± 16.35 years and the female is 41.62 ± 16.77 . But the difference in the mean age is statistically significant, since the “t” value is 1.269 and $P > 0.1\%$ the mean age of the total study subjects 45.92 ± 16.61 years. The mean age of the kalladaippu population will be in between 42.92 to 52.92 based on the estimation from the study subjects.

Effectives of the drug

Among 40 clinical trial. Fifteen were affected by the kalladaippu in both kidney. The remaining were affected either of the kidney. The analysis were made by taking the not affected kidney as normal since no calculus was found. After treatment also the calculus was not found in the kidney is also taken as normal and response is good. Because of that reason 40 right and 40 left kidneys were analysed and the results are furnished in below table.

Distribution of calculus of the study subjects in right and left kidney of before and after treatment shown in Table -2

S. No	kidney	n	Calculus		Calculus after treatment		Mean difference	“t”	Significance
			mean	Std. deviation	mean	Std. deviation			
1	Right Kidney	40	5.60	6.80	3.6	6.22	3.5	1.8	$p < 0.005$
2	Left Kidney	40	7.70	8.30	4.0	7.50	3.50	1.6	$p < 0.05$

The above table clearly shows the effectiveness of Neerkattu Parikara chooranam in curing kalladaipu. The right kidney had mean size of 5.60 ± 6.80 mm calculus before undergoing the treatment. After the treatment the mean calculus is observed the reduction is the effectiveness of the drug since the reduction is highly statistically significant ($t=1.9$ and $p<0.05$)

The above interpretation of the effectiveness of the drug was supported by the analysis of response. Among the 40 affected clinical trials 29 cured out and they are treated as good response, 8 were cured partially and they are treated as fair response, and 3 are not cured and they are treated as poor response.

Inference

The biostatistical analysis shows the effectiveness of Neerkattuparikara chooranam to kalladaipu noi clinical trials.

5. RESULTS AND DISCUSSION

NEERKATTU PARIKARA CHOORANAM

RESULTS AND DISCUSSION

Kalladaippu Noi is caused by the dearrangement of Vatha and Pittha humours. It is explained in the following poem.

“தெளிந்ததோர் கல்லடைப்பு கேளாய் உற்பத்தி

வளிந்ததோர் வாத பித்தங் கோபித்தகால்

நலிந்ததோர் நலவிதக் கல்லடைப்பு

நண்பான வரலாறு நாட்டக்கேளே.”

The clinical symptoms like Burning urination, painfull micturation, pain from Loin to groin, nausea are the reflection of dearrangements of Vatha and Pittha humours. After Administration of the drug **Neerkattu Parihara Chooranam**, the above signs and symptoms are relieved well. Neerkattu Parikara chooranam contains the drug Vengaram, Padigaram, Induppu, Pooneeru, Vazhai sarugu, Panampoo, and Nayuruvi samoolam. In the above seven Ingrediant, most of the drug has Thubarppu and Inippu in taste. Inippu is made up of Mann+Neer and Thubarppu is made up of Mann+Vali in Panchaboothams. So the drug neutralize the vitiated Vatha and Pitha humours. The above Gunapadam explanation of the drug is supported by the Pharmacological and clinical studies.

The **Bio-chemical analysis** of the drug was done in the Bio-chemistry laboratory of Govt. Siddha Medical college palayamkottai. The analytic report confirms that the drug contains sulphate, carbonate, ferrous Iron. The presence of ferrous iron improves the Hb level of the patient.

The **diuretic action** of the drug was done in the pharmacological department at Government Siddha Medical College, Palayamkottai and the analysis establishes that the drug has good diuretic effect.

The **pharmacological and Toxicology analysis** were done in Baid-Metha College, Chennai, and the analysis establishes that the drug has effective Lithotriptic activity and has no toxic effect.

The **SEM and FTIR** analysis were done in Anna University, Chennai. The SEM analysis of the drug signifies good nano particle size that indicates absorption is very good and pharmaco therapeutic value was good. FTIR data reports the presence of functional group related to Neerkattu parikara chooranam.

ICP analysis were done in IIT College, Chennai. According to ICP result the heavy/toxic elements concentration is below the detectable level. Hence it is a safe drug.

Physio chemical analysis were done in Sasthra University, Thanjavur. According to physio chemical analysis acid insoluble ash is only 2.59% which indicates that the trial drug will digest completely in human gastro intestinal tract.

40 OP Patients of both sexes and different age group were selected. The author diagnosed kalladaippu according to siddha aspect with support of **ultrasonogram of abdomen and pelvis**.

All the patients have taken 390mgm Neerkattu parikara chooranam twice a day with Honey after food.

Out of 40 cases 29 cases (72.5%) showed good response, 8 cases (20%) showed fair response, 3 cases (7.5%) showed poor response.

There was no withdrawal symptoms and no adverse effects were noted during the period of taking the drug Neerkattu parikara chooranam.

6. SUMMARY

NEERKATTU PARIKARA CHOORANAM

SUMMARY

The drug **Neerkattu Parikara Chooranam** has been taken in this study to establish its efficacy in **Kalladaippu noi**, the Neerkattu Parikara Chooranam was administered at a dose of 390mg twice a day with honey.

A review of literatures about the drug and its significance in medicine were described. Information about collections and other preparations of the drug were reviewed.

In **Bio-chemical analysis** the chemical constituents of the drug contains Calcium, carbonate, sulphate, Ferrous iron were inferred.

Pharmacological analysis established that the drug has got Significant effect of Lithotriptic and Diuretic activities.

The **physiochemical analysis** indicates that the trial drug will digest completely in human GIT.

The **SEM** analysis of the drug signifies good nano particle size (47.5nm) that indicates absorption was very good.

The FTIR data reports the presence of functional group related to Neerkattu parikara chooranam.

According to **ICP** result the heavy/toxic elements concentration is below the detectable level hence it is a safe drug.

From the **clinical assessment**, it was inferred that the drug has Good response in Kalladaippu noi. During the clinical trial it was inferred that the drug has no side effects.

Thus the test drug **Neerkattu Parikara Chooranam** found to be effective and safe for **Kalladaippu noi** on the basis of **Lithotriptic and Diuretic actions**.

7. CONCLUSION

NEERKATTU PARIKARA CHOORANAM

CONCLUSION

It is concluded that the test drug **Neerkattu Parikara Chooranam** has got significant **Lithotriptic action and Diuretic action**. So, it is clinically very effective in **Kalladaippu noi**.

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9.ANNEXURES

**GOVT. SIDDHA MEDICAL COLLEGE,
PALAYAMKOTTAI.
TIRUNELVELI – 627002.
SCREENING COMMITTEE.**

Candidate Reg No:32101509

This is to certify that the dissertation topics Hypoglycaemic activity of the single drug NAVAL VER CHOORANAM and Lithnotriptic activity of the compound drug NEER KATTU PARIHARA CHOORANAM have been approved by the screening committee.

S.No	Name	Signature
1.	Prof. Dr. N.CHANDRAMOHAN DOSS, M.D(s) Principal & Chairman	
2.	Prof. Dr. R. THANGAMONEY, M.D (s)	
3.	Dr. A. SUBRAMANIAN, M.D (s)	

(Kindly make sure that the minutes of the meeting duly signed by all the participation are maintained by the college office)

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 44333	Name : Mr. S. Ezhilan	Age/Sex: 42/Male	From : 14/06/2012	To : 03/08/2012	No.of days treated: 50
Complaints and Duration : Burning micturition since 4 months, pain loin to groin since 4 month.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 8100cells/cumm	Albumin : Nil	Rt. Kidney: Normal, no calculus. Lt. Kidney: Collecting system Is dilated. A calculus measuring 8mm is Seen in left ureter (lower end) UB: Normal IMPRESSION: Lt lower ureteric calculus	TC: 9100 cells/cumm	Albumin : Nil	Rt. Kidney: Normal No calculus Lt. Kidney: Normal No calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 60%	Deposits: 5-10		P:63%	Deposits:	
L:36%	Pus-cells		L:33%	NAD	
E:4%	Seen.		E:4%		
ESR: ½ Hr: 2mm 1 Hr: 5mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb: 76%			Hb:80%		
Sugar: 90 mgs%			Sugar: 100 mgs%		
Urea: 21 mgs%			Urea: 20 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 48452	Name : Mr. P. Selavarj	Age/Sex: 41/Male	From : 28/06/2012	To : 16/08/2012	No.of days treated: 52
Complaints and Duration : Burning micturition, lower abdomen pain since 6 months					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:8000 cells/cumm	Albumin :Nil	Rt.Kidney:9.2 × 4.4 cm Shows a calculus measuring 4mm in upper calyx Lt.Kidney:9.1×4.2 cm Shows a calculus measuring7mm lower calyx. UB: Normal IMPRESSION: Bilateral renal calculus	TC: 8200 cells/cumm	Albumin : Nil	Rt.Kidney:Normal No calculus Lt.Kidney: Normal No calculus UB: Normal IMPRESSION: Normal Study OBSERVATION : GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar: Nil	
P:56%	Deposits:2-5		P:55%	Deposits:	
L:40%	Pus-cells		L:41%	NAD	
E:4%	Seen		E:4%		
ESR: ½ Hr:2mm 1 Hr:4mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:80%			Hb:82%		
Sugar: 90 mgs%			Sugar: 98 mgs%		
Urea: 20 mgs%			Urea: 21mgs%.		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 48453	Name : Mr. R. Balakirshan	Age/Sex: 39/Male	From : 28/06/2012	To : 16/09/2012	No.of days treated: 52
Complaints and Duration: Burning micturition lower abdominal pain, nausea since 1 year.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:9300 cells/cumm	Albumin : Nil	Rt.Kidney:9.6×4.2 cm shows a calculus measuring 3mm is seen in the upper calyx. Lt.Kidney:9.2×4.0 cm No Calculus UB: Normal IMPRESSION: Rt. renal calculus	TC: 9400 cells/cumm	Albumin : Nil	Rt.Kidney:9.5×4.1 cm Normal No calculus Lt.Kidney:9.4×4.0 cm Normal No calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:52%	Deposits: 5-10		P:53%	Deposits: 1-5	
L:45%	Pus-cells		L:43%	Pus-cells	
E:3%	Seen		E:4%	Seen.	
ESR: ½ Hr:8mm 1 Hr:16mm			ESR: ½ Hr:4mm 1 Hr:8mm		
Hb:80%			Hb:78%		
Sugar: 120 mgs%			Sugar: 110 mgs%		
Urea: 24 mgs%			Urea: 20 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 48479	Name : Mr. A. Selavakumar	Age/Sex: 47/ Male	From : 28/06/2012	To : 16/08/2012	No.of days treated: 52
Complaints and Duration : Burning micturition lower abdominal pain, since 1 year.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram – abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9900cells/cumm	Albumin :Nil	Rt.Kidney:10×4.9 cm Shows 5mm calculus in lower calyx Lt.Kidney:10×5.1 cm,shows 6mm calculus in upper calyx Moderate hydronephrosis UB: Normal IMPRESSION:.Bilateral renal calculus	TC: 9100cells/cumm	Albumin :Nil	Rt.Kidney:Normal no Calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal Study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar:Nil	
P:56%	Deposits:1-6		P: 54%	Deposits:	
L:40%	Pus-cells		L: 42%	NAD	
E:4%	Seen		E:4%		
ESR: ½ Hr: 4mm 1 Hr:5mm			ESR: ½ Hr: 2mm 1 Hr:4mm		
Hb: 80%			Hb:76%		
Sugar: 90 mgs%			Sugar: 95 mgs%		
Urea: 22 mgs%			Urea: 20mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 50639	Name : Mr. P. Anthony	Age/Sex: 56/Male	From : 05/07/2012	To : 22/08/2012	No.of days treated: 47
Complaints and Duration : Burning micturition, pain loin to groin, since 6 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9900 cells/cumm	Albumin :Nil	Rt.Kidney:9.5×4.5 cm Shows 6mm calculus in lower pole Lt.Kidney:9.1×4.3 cm A calculus measuring 6mm in lower calyx UB: Normal IMPRESSION: Bilateral renal Calculus	TC:9100 cells/cumm	Albumin : Nil	Rt.Kidney: 9.5×4.5 cm Normal no calculus Lt.Kidney: 9.1×4.3 cm A Calculus measuring 4mm is seen in lower calyx UB: Normal IMPRESSION: Lt renal calculus. OBSERVATION: Fair RESPONSE
DC:	Sugar:Nil		DC:	Sugar: Nil	
P:58%	Deposits:1-5		P:60%	Deposits:1-5	
L:40%	Pus-cells		L:36%	Pus-cells	
E:2%	Seen		E:4%	seen	
ESR: ½ Hr:5mm 1 Hr:10mm			ESR: ½ Hr:4mm 1 Hr:8mm		
Hb:76%			Hb:76%		
Sugar:120mgs%			Sugar: 120 mgs%		
Urea: 21mgs%			Urea: 20 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 52667	Name : Mr. Rajan	Age/Sex: 29/Male	From : 12/07/2012	To : 30/08/2012	No.of days treated: 48
Complaints and Duration : Burning micturition, lower abdominal pain, since 3 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:9400 cells/cumm	Albumin : Nil	Rt.Kidney:9.4×4.1 cm A calculus measuring 6mm in lower calyx Lt.Kidney:10.1×4.8 cm No calculus UB: Normal IMPRESSION:Rt renal calculus	TC: 9000 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:54%	Deposits:5-10		P:52%	Deposits:	
L:45%	Pus-cells		L:42%	NAD	
E:1%	Seen		E:4%		
ESR: ½ Hr:4mm 1 Hr:8mm			ESR: ½ Hr:2mm 1 Hr: 4mm		
Hb:68%			Hb: 70%		
Sugar: 95 mgs%			Sugar: 100 mgs%		
Urea: 24 mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 52702	Name : Mr. Ponnukotti	Age/Sex: 50/Male	From : 12/07/2012	To : 30/08/2012	No.of days treated: 48
Complaints and Duration : Burning micturition, pain loin to groin, since 1 year.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:10000 cells/cumm	Albumin :Nil	Rt.Kidney: 9.6×3.6cm Cortex and collecting system Normal no calculus Lt.Kidney:9.9×4.2 cm A calculus measuring 7mm is seen in the middle calyx. UB: Normal IMPRESSION: Lt. Renal calculus	TC: 9800 cells/cumm	Albumin : Nil	Rt.Kidney: Normal No calculus Lt.Kidney:9.9×4.2 cm A calculus measuring 4mm is seen in the middle calyx. UB: Normal IMPRESSION: Lt renal calculus OBSERVATION: FAIR RESPONSE
DC:	Sugar:Nil		DC:	Sugar: Nil	
P:59%	Deposits:5-10		P:56%	Deposits:	
L:37%	Pus-cells		L:40%	NAD	
E:4%	Seen		E:4%		
ESR: ½ Hr:4mm 1 Hr:8mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:76%			Hb: 80%		
Sugar: 110 mgs%			Sugar: 120 mgs%		
Urea: 23mgs%			Urea: 21mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 58792	Name : Mr. Mathibalan	Age/Sex: 52/ Male	From : 02/08/2012	To : 13/09/2012	No.of days treated: 42
Complaints and Duration : Burning micturition, lower abdominal pain, since 6 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9300 cells/cumm	Albumin :Nil	Rt.Kidney:9.2×4.0 cm A calculus measuring 2mm in middle calyx Lt.Kidney:9.3×4.0 cm Hydronephrosis present UB: Normal IMPRESSION: Rt renal calculus	TC: 8900 cells/cumm	Albumin :Nil	Rt.Kidney:9.2×4.0 cm Normal No calculus Lt.Kidney:9.3×4.0 cm a calculus measuring 1 cm in the Lower calyx UB: Normal IMPRESSION: Lt renal calculus OBSERVATION: FAIR RESPONSE
DC:	Sugar:Nil		DC:	Sugar: Nil	
P:60%	Deposits:1-5		P:58%	Deposits:	
L:37%	Pus-cells		L:40%	NAD	
E:3%	Seen		E:2%		
ESR: ½ Hr:3mm 1 Hr:7mm			ESR: ½ Hr:2mm 1 Hr:		
Hb:78%			Hb:80%		
Sugar: 110 mgs%			Sugar: 120 mgs%		
Urea: 24 mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 58624	Name : Mr. Arumugam	Age/Sex: 32/Male	From : 02/08/2012	To : 13/09/2012	No.of days treated: 42
Complaints and Duration : Burning micturition pain in right loin, nausea since 3 weeks.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasono gram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9900 cells/cumm	Albumin :Nil	Rt.Kidney:Shows 9mm calculus in upper pole Lt.Kidney: No calculus UB: Normal IMPRESSION: Rt renal Calculus	TC: 10000cells/cumm	Albumin : Nil	Rt.Kidney:8.6×4.2 cm Normal no calculus Lt.Kidney:8.4×4.4 Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:58%	Deposits:5-10		P:58%	Deposits:	
L:38%	Pus-cells		L:40%	NAD	
E:4%	Seen		E:4%		
ESR: ½ Hr:4mm 1 Hr:8mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:78%			Hb:79%		
Sugar: 120 mgs%			Sugar: 120 mgs%		
Urea: 22 mgs%			Urea: 20 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 60926	Name : Mrs. Sharmila	Age/Sex: 40/Female	From : 09/08/2012	To : 20/09/2012	No.of days treated: 42
Complaints and Duration : Pain present in right iliac region, burning micturition since 1 week.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:10000cells/cumm	Albumin : Nil	Rt.Kidney:5mm calculus seen in upper calyx Lt.Kidney:Normal in size UB: Normal IMPRESSION: Rt renal calculus	TC: 9600cells/cumm	Albumin : Nil	Rt.Kidney:Normal, no calculus Lt.Kidney: Normal no calculus UB: Noramal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:60%	Deposits: NAD		P: 62%	Deposits: NAD	
L:38%			L: 35%		
E:2%			E: 4%		
ESR: ½ Hr: 4mm 1 Hr: 7mm			ESR: ½ Hr: 4mm 1 Hr: 8mm		
Hb: 78%			Hb: 78%		
Sugar: 120 mgs%			Sugar: 120 mgs%		
Urea: 22 mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 60941	Name : Mr. Perumal	Age/Sex: 45/Male	From : 09/08/2012	To : 20/09/2012	No.of days treated: 42
Complaints and Duration : Pain present loin to groin, burning micturition since 3 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9800cells/cumm	Albumin : Nil	Rt.Kidney:Normal in size, a calculus measuring 7 mm is seen in middle calyx Lt.Kidney: Normal in size, shows 7 mmcalculus in upper pole8UB: Normal IMPRESSION: Bilat eral renal calculus	TC: 8800cells/cumm	Albumin : Nil	Rt.Kidney:Normal, a calculus measuring 3 mm is seen in middle calyx Lt.Kidney: Normal, no calculus UB: Normal, IMPRESSION: Rt renal calculus. OBSERVATION: FAIR RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 56%	Deposits: 1-5 Pus-cells seen		P: 60%	Deposits: NAD	
L: 35%			L:38%		
E: 4%			E:3%		
ESR: ½ Hr: 18mm 1 Hr: 31mm			ESR: ½ Hr: 4mm 1 Hr: 8mm		
Hb: 71%			Hb: 86%		
Sugar: 130 mgs%			Sugar: 100 mgs%		
Urea: 21 mgs%			Urea: 20mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 67019	Name : Mr. Ponnaiah	Age/Sex: 57/Male	From : 30/08/2012	To : 11/10/2012	No.of days treated: 42
Complaints and Duration : Pain present loin to groin, burning micturition since 4 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9800 cells/cumm	Albumin : Nil	Rt.Kidney: 9.5×4.2 cm Normal, shows 6mm calculus in middle calyx Lt.Kidney: 10.2×4.8 cm a calculus measuring 5 mm is seen in middle calyx UB: Normal MPRESSION: Bilateral renal calculus	TC: 9200cells/cumm	Albumin : Nil	Rt.Kidney: 9.5×4.2 cm Normal, Normal, no calculus. Lt.Kidney: 10.2×4.8 cm a calculus measuring 5 mm is seen in middle calyx UB: Normal IMPRESSION: Lt renal calculus OBSERVATION: FAIR RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 64%	Deposits: plenty Pus-cells seen		P: 62%	Deposits: 1-5 Pus-cells seen	
L: 35%			L: 37%		
E: 4%			E: 4%		
ESR: ½ Hr: 9mm 1 Hr: 17mm			ESR: ½ Hr: 4mm 1 Hr: 8mm		
Hb: 71%			Hb:70%		
Sugar: 140mgs%			Sugar: 110 mgs%		
Urea: 27 mgs%			Urea: 20mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 69344	Name : Mr. R. Bagavathiraman	Age/Sex: 24/Male	From : 06/09/2012	To : 18/10/2012	No.of days treated: 42
Complaints and Duration : Burning micturition present, pain present in right loin since 1 month.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9900 cells/cumm	Albumin : Nil	Rt.Kidney: 10.2×4.9 cm shows a calculus, measuring 1.7 cm is seen in the renal pelvis. Lt.Kidney: 9.6×4.3 cm Normal,shows 4mm calculus in middle calyx UB: Normal IMPRESSION: Bilateral renal calculus.	TC: 9800cells/cumm	Albumin : Nil	Rt.Kidney: 10.2×4.9 cm shows a calculus, measuring 1.7 cm is seen in the renal pelvis. Lt.Kidney: 9.6×4.3 cm Normal, no calculus UB: Normal IMPRESSION: Rt renal calculus. OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 71%	Deposits: 5-10		P: 58%	Deposits:NAD	
L: 36%	Pus-cells Seen		L: 37%		
E: 5%			E:6%		
ESR: ½ Hr: 5mm 1 Hr: 13mm			ESR: ½ Hr: 5mm 1 Hr: 10mm		
Hb: 70%			Hb: 71%		
Sugar: 100 mgs%			Sugar: 110 mgs%		
Urea: 23mgs%			Urea: 24 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 71761	Name : Mrs. Jesi	Age/Sex: 45/Female	From : 13/09/2012	To : 25/10/2012	No.of days treated: 42
Complaints and Duration : Burning micturition present, pain present in right loin since 3 month.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9100 cells/cumm	Albumin : Nil	Rt.Kidney:Normal, shows 6mm calculus in upper pole,with hydronephrosis Lt.Kidney: Normal size. UB: Normal IMPRESSION:Rt renalcalculus with hydronephrosis	TC: 8900 cells/cumm	Albumin : Nil	Rt.Kidney:Normal, no calculus Lt.Kidney: Normal, no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 56%	Deposits: 2-6		P: 56%	Deposits: NAD	
L: 43%	Pus-cells		L: 35%		
E: 4%	Seen		E: 5%		
ESR: ½ Hr: 5mm 1 Hr: 10mm			ESR: ½ Hr: 6mm 1 Hr: 12mm		
Hb: 71%			Hb: 79%		
Sugar: 110 mgs%			Sugar: 100mgs%		
Urea: 20mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 76863	Name : Mr. Santhosh	Age/Sex: 35/Male	From : 28/09/2012	To : 09/11/2012	No.of days treated: 42
Complaints and Duration : Burning micturition present, pain present in right loin, nausea since 3 month.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9900cells/cumm	Albumin : Nil	Rt.Kidney:Normal, shows 9mm calculus in middle calyx Lt.Kidney: Normal size UB: Normal IMPRESSION: Rt renal calculus	TC: 9800cells/cumm	Albumin : Nil	Rt.Kidney:Normal, no calculus Lt.Kidney: Normal, no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P: 67%	Deposits: 2-5		P: 56%	Deposits: NAD	
L: 44%	Pus-cells		L: 35%		
E: 4 4%	Seen		E: 5%		
ESR: ½ Hr: 4mm 1 Hr:8mm			ESR: ½ Hr: 6mm 1 Hr: 12mm		
Hb: 71%			Hb: 76%		
Sugar: 110 mgs%			Sugar: 133mgs%		
Urea: 25 mgs%			Urea: 21mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 76865	Name : Mr. Ganesh	Age/Sex: 38/Male	From : 28/09/2012	To : 09/11/2012	No.of days treated: 42
Complaints and Duration : Burning micturition, pain present in loin to groin since 1 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:8200 cells/cumm	Albumin :Nil	Rt.Kidney:9.1×4.0cm shows 5mm calculus in lower calyx Lt.Kidney:9.4×4.0cm A calculus measuring 4mm is seen in middle calyx UB: Normal IMPRESSION: Bilateral renal calculus	TC: 7800 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:58%	Deposits:2-5		P:62%	Deposits:NAD	
L:38%	Pus-cells		L:36%		
E:6%	Seen		E:2%		
ESR: ½ Hr:2mm 1 Hr:4mm			ESR: ½ Hr:1mm 1 Hr:3mm		
Hb:75%			Hb:80%		
Sugar: 120 mgs%			Sugar: 110mgs%		
Urea: 23 mgs%			Urea: 24 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 76864	Name : Mr. Saravanan	Age/Sex: 32/Male	From : 28/09/2012	To : 09/11/2012	No.of days treated: 42
Complaints and Duration : Burning micturition, lower abdominal pain, nausea since 4 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 8700 cells/cumm	Albumin :Nil	Rt.Kidney:8.9×3.9 cm Normal No calculus Lt.Kidney:8.4×3.4 cm Shows a calculus measuring 5mm is seen in the middle pole UB: Normal IMPRESSION: Lt renal calculus	TC:8500 cells/cumm	Albumin :Nil	Rt.Kidney:9.4×4.3 cm Normal no calculus Lt.Kidney:Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:62%	Deposits:3-5 Pus-cells Seen		P:60%	Deposits:NAD	
L:32%			L:38%		
E:6%			E:2%		
ESR: ½ Hr:4mm 1 Hr:7mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:78%			Hb:74%		
Sugar: 120 mgs%			Sugar: 108 mgs%		
Urea: 22 mgs%			Urea: 23mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 82710	Name : Mr. Rajendren	Age/Sex: 50/Male	From : 17/10/2012	To : 23/11/2012	No.of days treated: 37
Complaints and Duration : Burning micturition, lower abdominal pain, nausea since 3 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9400cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Collecting system is dilated. A calculus measuring 8mm is seen in left ureter(lower end) UB: Normal IMPRESSION: Rt renal calculus	TC: 9100 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:62%	Deposits:5-10 Pus-celis Seen		P:63%	Deposits:NAD	
L:34%			L:33%		
E:4%			E:4%		
ESR: ½ Hr:2mm 1 Hr:5mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:76%			Hb:80%		
Sugar:90 mgs%			Sugar:100 mgs%		
Urea:21 mgs%			Urea: 20mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 82707	Name : Mrs. Parvathi	Age/Sex: 45/Female	From : 17/10/2012	To : 23/11/2012	No.of days treated: 37
Complaints and Duration : Burning micturition, lower abdominal pain, nausea since 6 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 7800 cells/cumm	Albumin :Nil	Rt.Kidney:9.2×4.4 cm Shows a calculus measuring 4mm in upper calyx Lt.Kidney:9.1×4.2 cm Normal no calculus UB: Normal IMPRESSION: Rt renal calculus	TC: 8200 cells/cumm	Albumin : Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar: Nil	
P:52%	Deposits:2-5		P:56%	Deposits: NAD	
L:44%	Pus-cells Seen		L:40%		
E:4%			E:4%		
ESR: ½ Hr:2mm 1 Hr:4mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:80%			Hb:82%		
Sugar:90 mgs%			Sugar:98 mgs%		
Urea: 20 mgs%			Urea: 21 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 84390	Name : Mr. Kasi	Age/Sex: 40/ Male	From : 22/10/2012	To : 30/11/2012	No.of days treated: 39
Complaints and Duration : Burning micturition, lower abdominal pain, nausea since 6 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9400 cells/cumm	Albumin : Nil	Rt.Kidney:Normal in size. A calculus measuring 7mm is seen in middle calyx Lt.Kidney: No normal no calculus UB: Normal IMPRESSION: Rt renal calculus	TC: 8800 cells/cumm	Albumin : Nil	Rt.Kidney:Normal in size. A calculus measuring 3mm is seen in middle calyx Lt.Kidney: Normal, no calculus UB: Normal IMPRESSION: Rt renal calculus OBSERVATION: FAIR RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:55%	Deposits: 1-5		P: 60%	Deposits: NAD	
L:40%	Pus-cells Seen		L: 38%		
E:5%			E:2%		
ESR: ½ Hr:4mm 1 Hr:8mm			ESR: ½ Hr:4mm 1 Hr:8mm		
Hb:84%			Hb: 86%		
Sugar:110 mgs%			Sugar: 100 mgs%		
Urea: 23 mgs%			Urea: 21 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 84391	Name : Mr. Subash	Age/Sex: 42/Male	From : 22/10/2012	To : 30/11/2012	No.of days treated: 39
Complaints and Duration : Pain present in loin to groin, Borning micturition, nausea since 2 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9000cells/cumm	Albumin : Nil	Rt.Kidney: 9.1×3.2cm A calculus measuring 5mm is seen in middle pole. Lt.Kidney:9.4×3.3 Normal, no calculus UB: Normal IMPRESSION: Rt renal calculus	TC: 8500 cells/cumm	Albumin : Nil	Rt.Kidney: 9.1×3.2cm Normal, no calcuulus Lt.Kidney:9.4×3.3cm Normal, no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:66%	Deposits:1-3 Pus-cells seen		P:58%	Deposits: NAD	
L:30%			L:38%		
E:4%			E:4%		
ESR: ½ Hr: 12mm 1 Hr:25 mm			ESR: ½ Hr:4mm 1 Hr:8mm		
Hb:62%			Hb:65%		
Sugar: 98 mgs%			Sugar: 110 mgs%		
Urea: 23 mgs%			Urea: 24 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 85114	Name : Mrs. Shamugavadivu	Age/Sex: 52/Female	From : 25/10/2012	To : 30/11/2012	No.of days treated: 32
Complaints and Duration : Burning micturition, nausea, pain present in loin to groin since 4 months					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9500cells/cumm	Albumin : Trace	Rt.Kidney:Normal in size. A calculus measuring 4mm is seen in middle calyx Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Rt renal calculus	TC: 8800 cells/cumm	Albumin : Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:60%	Deposits: Plenty of RBC's Seen		P:60%	Deposits: NAD	
L:35%			L:38%		
E:5%			E:2%		
ESR: ½ Hr:8mm 1 Hr:15mm			ESR: ½ Hr:4mm 1 Hr:12mm		
Hb:81%			Hb:84%		
Sugar: 85mgs%			Sugar: 110 mgs%		
Urea: 25 mgs%			Urea: 23 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 85115	Name : Mrs. Jeyalakshmi	Age/Sex: 48/Female	From : 25/10/2012	To : 30/11/2012	No.of days treated: 36
Complaints and Duration : Burning Micturition, pain present in lower abdomen, nausea since 8 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 8200cells/cumm	Albumin : Nil	Rt.Kidney: 10.6×4.2 cm 9cm, A calculus measuring 5mm is seen in middle calyx Lt.Kidney: 10.1×4.1 Normal, no calculus UB: Normal IMPRESSION: Rt renal calculus	TC: 8200 cells/cumm	Albumin : Nil	Rt.Kidney:Normal, no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:58%	Deposits: 6-10 Pus-cells Seen		P:58%	Deposits: NAD	
L:40%			L:40%		
E:2%			E:2%		
ESR: ½ Hr: 4mm 1 Hr: 8mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:72%			Hb:68%		
Sugar: 110 mgs%	Sugar: 110 mgs%				
Urea: 26 mgs%	Urea: 24 mgs%				

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No :	Name : Mr. Velshadevan	Age/Sex: 25/Male	From : 30/10/2012	To : 30/11/2012	No.of days treated: 29
Complaints and Duration : Pain present in left loin, burning micturition, nausea since 3 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9100 cells/cumm	Albumin : Nil	Rt.Kidney: 9.6×4.2cm Normal no calculus Lt.Kidney: 9.0×4.5cm there is a 4mm calculus in upper pole UB: Normal IMPRESSION: Lt renal calculus	TC: 9400 cells/cumm	Albumin : Nil	Rt.Kidney:Normal, no calculus Lt.Kidney: Normal, no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:60%	Deposits: Occasionally Pus-cells Seen		P:58%	Deposits: NAD	
L:32%			L:40%		
E:8%			E:2%		
ESR: ½ Hr:5mm 1 Hr:10mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:68%			Hb: 84%		
Sugar: 89 mgs%	Sugar: 98 mgs%				
Urea: 23 mgs%	Urea: 23 mgs%				

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 86692	Name : Mr. Gnea jeba prakash	Age/Sex: 26/ Male	From : 31/10/2012	To : 08/12/2012	No.of days treated: 67
Complaints and Duration : Burning micturition, pain present in lower abdomen, nausea, haematuria since 1 week.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 8500cells/cumm	Albumin : Nil	Rt.Kidney: 10.1×4.6cm A calculus of size 5.3mm is seen in the middle pole Lt.Kidney:10.0×4.5cm A calculus of size 4mm is seen in the lower pole UB: Normal IMPRESSION: Bilateral. Renal calculus	TC: 8400 cells/cumm	Albumin : Nil	Rt.Kidney:Normal no calculus Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar: Nil		DC:	Sugar: Nil	
P:63%	Deposits:2-5		P:64%	Deposits: NAD	
L:35%	Pus-cells Seen		L:34%		
E:2%			E:2%		
ESR: ½ Hr: 12mm 1 Hr: 22mm			ESR: ½ Hr: 4mm 1 Hr: 8mm		
Hb:84%			Hb:86%		
Sugar: 79 mgs%			Sugar: 74% mgs%		
Urea: 26 mgs%			Urea: 24mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 86777	Name : Mr. Kirshnan	Age/Sex: 52/Male	From : 31/10/2012	To : 08/12/2012	No.of days treated: 67
Complaints and Duration : Burning micturition, nausea, pain present in right loin to groin since 4 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9500 cells/cumm	Albumin :Nil	Rt.Kidney: A Calculus measuring 1.1cm Seen in the lower end of the ureter. Lt.Kidney: Normal no calculus UB: Normal IMPRESSION: Rt ureteric Calculus with hydronephrosis	TC: 9600 cells/cumm	Albumin :Nil	Rt.Kidney:Normal , no calculus Lt.Kidney:Normal, no calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:56%	Deposits:1-2		P:58%	Deposits:NAD	
L:40%	Pus-cells		L:40%		
E:4%	Seen		E:2%		
ESR: ½ Hr: 1mm 1 Hr:4mm			ESR: ½ Hr:1mm 1 Hr:3mm		
Hb:78%			Hb:80%		
Sugar: 130 mgs%			Sugar: 110 mgs%		
Urea: 23 mgs%			Urea: 17 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 86776	Name : Mr. Perumal	Age/Sex: 42/ Male	From : 31/10/2012	To : 08/12/2012	No.of days treated: 67
Complaints and Duration : Severe burning micturition, pain present in both loin, nausea, since 1 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 8600cells/cumm	Albumin :Trace	Rt.Kidney:9.8×4.6 cm A calculus measuring 1.8cm Is seen in the renal pelvis, Upper calyx dilated Lt.Kidney:9.3×4.2 Normal no calculus UB: Normal IMPRESSION: Rt renal calculus with upper calyx dilatation.	TC: 8800cells/cumm	Albumin : Nil	Rt.Kidney:9.8×4.6cm shows a calculus measuring 1.4cm is seen in the renal pelvis. Lt.Kidney:Normal no calculus UB: Normal IMPRESSION: Rt Renal calculus OBSERVATION: FAIR RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:62%	Deposits:2-5		P:64%	Deposits:NAD	
L:36%	Pus-cells		L:34%		
E:2%	Seen		E:2%		
ESR: ½ Hr:1mm 1 Hr:5mm			ESR: ½ Hr:1mm 1 Hr:3mm		
Hb:80%			Hb:88%		
Sugar: 98 mgs%			Sugar: 105 mgs%		
Urea: 30mgs%			Urea: 21mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 86775	Name : Mr. Ganapathy	Age/Sex: 36/Male	From : 31/10/2012	To : 08/12/2012	No.of days treated: 67
Complaints and Duration : Burning micturition, pain present in left loin, nausea, giddiness since 2 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9800cells/cumm	Albumin :Trace	Rt.Kidney:9.6×4.6cm Normal no calculus Lt.Kidney:9.6×4.4cm a A calculus measuring 4mm is seen in lower calyx. UB: Normal IMPRESSION: Lt Renal Calculus	TC:9200 cells/cumm	Albumin :Nil	Rt.Kidney:9.6×4.6cm Normal no calculus Lt.Kidney:9.5×4.4cm Normal No calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:66%	Deposits:Full of		P:64%	Deposits:3-5	
L:30%	Pus-cells		L:34%	Pus-cells seen	
E:4%	Amorphous		E:2%		
ESR: ½ Hr:10mm 1 Hr:25mm	Phosphate crystals		ESR: ½ Hr:6mm 1 Hr:12mm		
Hb:70%	Seen		Hb:80%		
Sugar: 90 mgs%			Sugar: 130 mgs%		
Urea: 24 mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 88454	Name : Mr. Velu	Age/Sex: 42/Male	From : 05/11/2012	To : 05/12/2012	No.of days treated: 30
Complaints and Duration : Burning micturaation, pain loin to groin, nausea since 3 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC:8800cells/cumm	Albumin :Trace	Rt.Kidney:9.6×4.6 cm shows a calculus measuring 3mm is seen in the middle pole Lt.Kidney:9.4×4.2cm Normal,No calculus UB: Normal IMPRESSION: Rt Renal Calculus	TC:7800 cells/cumm	Albumin :Nil	Rt.Kidney:9.6×4.6cm Normal No calculus Lt.Kidney:9.4×4.2cm, Normal No calculus UB: Normal IMPRESSION: Normal study OBSERVATION: GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:56%	Deposits:3-5		P:60%	Deposits:2-5	
L:40%	Pus-cells		L:38%	Pus-cells	
E:4%	Seen		E:2%	seen	
ESR: ½ Hr:2mm 1 Hr:4mm			ESR: ½ Hr:1mm 1 Hr:3mm		
Hb:80mgs%			Hb:78%		
Sugar:1 25 mgs%			Sugar: 120 mgs%		
Urea: 23 mgs%			Urea: 25 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 88455	Name : Mrs. Kanmani	Age/Sex: 48/Female	From : 05/11/2012	To : 05/12/2012	No.of days treated: 30
Complaints and Duration : Pain present in lower abdomen, burning micturition, nausea, constipation since 1 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9600cells/cumm	Albumin : Trace	Rt.Kidney:10.6×4.2 cm shows a calculus measuring 5mm is seen in the Middle calyx Lt.Kidney:10.1×4.1 cm Normal no calculus UB: Normal IMPRESSION: Rt Renal calculus	TC: 9100 cells/cumm	Albumin :Nil	Rt.Kidney:10.6×4.2 cm shows a calculus measuring 5mm is seen in the middle calyx. Lt.Kidney:10.1×4.1cm Normal no calculus UB: Normal IMPRESSION: Rt Renal calculus OBSERVATION: POOR RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:66%	Deposits:5-10		P:58%	Deposits:NAD	
L:30%	Pus-cells		L:38%		
E:4%	Seen		E:4%		
ESR: ½ Hr:10mm 1 Hr:25mm			ESR: ½ Hr:6mm 1 Hr:12mm		
Hb:70%			Hb:76%		
Sugar: 90 mgs%			Sugar: 100 mgs%		
Urea: 24 mgs%			Urea: 22 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 88456	Name : Mrs. Sudha	Age/Sex: 52/Female	From : 05/11/2012	To : 05/12/2012	No.of days treated: 30
Complaints and Duration : Pain present in right loin, burning micturition, nausea since 45 days.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9000 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:Normal in size A calculus measuring 5mm Is seen in the middle calyx UB: Normal IMPRESSION: Lt Renal Calculus	TC: 8800cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:62%	Deposits: Few Pus-cells Seen		P:62%	Deposits:NAD	
L:34%			L:34%		
E:4%			E:4%		
ESR: ½ Hr:12mm 1 Hr:25mm			ESR: ½ Hr:6mm 1 Hr:12mm		
Hb:78%			Hb:80%		
Sugar: 100 mgs%			Sugar: 110 mgs%		
Urea: 29 mgs%			Urea: 25 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 89943	Name : Mrs. Kamala	Age/Sex: 42/Female	From : 08/11/2012	To : 05/11/2012	No.of days treated: 27
Complaints and Duration : Pain present in lower abdomen, burning micturition, nausea, since 6 months.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urin	Ultrasonogram – abdomen Response
TC: 9600 cells/cumm	Albumin :Nil	Rt.Kidney:10.6×4.2cm shows a Calculus measuring 5mm is seen in the middle calyx Lt.Kidney:10.1×4.1cm Normal , shows 9mm calculus in lower calyx UB: Normal IMPRESSION: Bilateral Renal calculus	TC:9100 cells/cumm	Albumin :Nil	Rt.Kidney:10.6×4.2cm shows a calculus measuring 5mm is seen In the middle calyx Lt.Kidney:10.1×4.1cm Normal No calculus UB: Normal IMPRESSION: Rt Renal calculus OBSERVATION: POOR RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:60%	Deposits:5-10 Pus-cells Seen		P:58%	Deposits:NAD	
L:36%			L:38%		
E:4%			E:4%		
ESR: ½ Hr:12mm 1 Hr:24mm			ESR: ½ Hr:6mm 1Hr: 12 mm		
Hb:78%			Hb:76%		
Sugar: 110 mgs%			Sugar:100 mgs%		
Urea: 25 mgs%			Urea: 22mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 89944	Name : Mr. Kamatchinathan	Age/Sex: 35/Male	From : 08/11/2012	To : 05/12/2012	No.of days treated: 27
Complaints and Duration : Pain present in right loin, burning micturition, nausea, constipation since 1 months					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram – abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9400cells/cumm	Albumin :Nil	Rt.Kidney:10.4×5.9cm A Calculus measuring 8mm is Seen in the lower calyx. Lt.Kidney:10.3×6.0cm normal, No calculus UB: Normal IMPRESSION: Rt. Renal Calculus	TC: 8800cells/cumm	Albumin :Nil	Rt.Kidney:10.4×5.1cm Normal No calculus Lt.Kidney:10.2×6.0cm Normal, No calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:64%	Deposits:		P:58%	Deposits:NAD	
L:32%	Occasionally		L:38%		
E:4%	Pus-cells		E:4%		
ESR: ½ Hr:5mm 1 Hr:10mm	Seen		ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:68%			Hb:80%		
Sugar: 89 mgs%			Sugar: 87 mgs%		
Urea: 23mgs%			Urea: 22 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 89942	Name : Mr. Chandraseker	Age/Sex: 48/Male	From : 08/11/2012	To : 05/12/2012	No.of days treated: 27
Complaints and Duration : Pain present both loin, burning micturition, nausea, since 1 month					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9600 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:Shows a calculus Measuring 7mm is seen in The middle calyx. UB: Normal IMPRESSION: Lt Renal Calculus	TC: 9200cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:shows a calculus measuring 5mm is seen in the Middle calyx UB: Normal IMPRESSION: Left renal calculus OBSERVATION:FAIR RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:62%	Deposits:2-5		P:58%	Deposits:NAD	
L:34%	Pus-cells		L:38%		
E:4%	Seen		E:4%		
ESR: ½ Hr:5mm 1 Hr:10mm			ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:80%			Hb:86%		
Sugar: 120 mgs%			Sugar:96 mgs%		
Urea: 22mgs%			Urea: 20 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 93756	Name : Mr. Perumal	Age/Sex: 52/Male	From : 19/11/2012	To : 19/12/2012	No.of days treated: 30
Complaints and Duration : Pain present left loin, burning micturition, nausea, general tiredness since 3 months					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram – abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9100cells/cumm	Albumin :Nil	Rt.Kidney:8.5×4.9cm Normal.No calculus Lt.Kidney:8.5×5.1cmA Calculus measuring 3mm Is seen in the middle calyx UB: Normal IMPRESSION: Lt Renal calculus	TC: 9200 cells/cumm	Albumin :Nil	Rt.Kidney:8.7×4.9cm Normal No calculus Lt.Kidney:8.5×5.1cm Normal no calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:58%	Deposits:		P:58%	Deposits:NAD	
L:36%	Plenty of		L:38%		
E:6%	Pus-cells		E:4%		
ESR: ½ Hr:7mm 1 Hr:15mm	Seen		ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:84%			Hb:86%		
Sugar: 84 mgs%			Sugar: 96 mgs%		
Urea: 20mgs%			Urea: 20mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 93759	Name : Mr. Sunil	Age/Sex: 42/Male	From : 19/11/2012	To : 19/12/2012	No.of days treated: 30
Complaints and Duration : Pain present lower abdomen, nausea, burning micturition since 2 months					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9000cells/cumm	Albumin :Nil	Rt.Kidney: A Calculus measuring 2mm Is seen in Rt mid ureter. Lt.Kidney: A calculus measuring 2mm is Seen in lower calyx. UB: Normal IMPRESSION: Bilateral calculuswith Hydronephrosis	TC: 8900 cells/cumm	Albumin :Nil	Rt.Kidney:Normal, NO calculus Lt.Kidney:Normal, No calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:56%	Deposits:2-5		P:54%	Deposits:1-3 Pus-cells Seen.	
L:36%	Pus-cells Seen		L:36%		
E:6%			E:6%		
ESR: ½ Hr:10mm 1 Hr:15mm			ESR: ½ Hr:10mm 1 Hr:15mm		
Hb:76%			Hb:76%		
Sugar:120 mgs%			Sugar: 100 mgs%		
Urea: 21mgs%			Urea: 20 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 93761	Name : Mr. Shamugam	Age/Sex: 51/Male	From : 19/11/2012	To : 19/12/2012	No.of days treated: 30
Complaints and Duration : Pain present in right side, burning micturition, nausea, since 40 days					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9400cells/cumm	Albumin :Nil	Rt.Kidney:10.4×5.9cmA Calculus measuring 8mm is Seen in the lower calyx Lt.Kidney:10.3×6.0cm Normal, No calculus UB: Normal IMPRESSION: Rt.Renal calculus	TC:8800 cells/cumm	Albumin :Nil	Rt.Kidney:10.4×5.1cm Normal, No calculus Lt.Kidney:10.2×6.0cm Normal, No calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:64%	Deposits:		P:58%	Deposits:NAD	
L:32%	Occasionally		L:38%		
E:4%	Pus-cells		E:4%		
ESR: ½ Hr:5mm 1 Hr:10mm	Seen		ESR: ½ Hr:2mm 1 Hr:4mm		
Hb:68%			Hb:80%		
Sugar: 89mgs%			Sugar:87 mgs%		
Urea: 23mgs%			Urea: 22 mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 94233	Name : Mr. Samidurai	Age/Sex: 48/Male	From : 20/11/2012	To : 19/12/2012	No.of days treated: 29
Complaints and Duration : Pain present in right side, burning micturition, since 20 days					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9000cells/cumm	Albumin :Nil	Rt.Kidney:Normal size shows5mm calculus in lower pole Lt.Kidney:Normal in size. IMPRESSION: Rt Renal calculus	TC:8800 cells/cumm	Albumin :Nil	Rt.Kidney:Normal no Calculus Lt.Kidney:Normal no calculus UB: Normal IMPRESSION: Normal Study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:60%	Deposits:		P:62%	Deposits:NAD	
L:36%	Few Pus-cells		L:34%		
E:4%	Seen		E:4%		
ESR: ½ Hr:4mm 1 Hr:8mm			ESR: ½ Hr:6mm 1 Hr:12mm		
Hb:78%			Hb:80%		
Sugar: 110 mgs%			Sugar: 110mgs%		
			Urea: 25 mgs%		

REPORTS ON THE CLINICAL TRIALS OF NEERKATTU PARI HARA CHOORNAM

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 94231	Name : Mr. Sennappan	Age/Sex: 58/Male	From : 20/11/2012	To : 19/12/2012	No.of days treated: 29
Complaints and Duration : Pain present in right side, burning micturition, nausea since 45 days.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9600cells/cumm	Albumin :Nil	Rt.Kidney:10.6×4.2cm shows a calculus measuring 5mm is seen in the ureter Lt.Kidney:10.1×4.1 cm Normal, No calculus UB: Normal IMPRESSION: Rt.ureter calculus	TC: 9100 cells/cumm	Albumin :Nil	Rt.Kidney:10.6×4.2cm shows A calculus measuring 5mm Is seen in the middle calyx Lt.Kidney:10.1×4.1cm Normal No calculus UB: Normal IMPRESSION: Rt renal calculus OBSERVATION: POOR RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:60%	Deposits: 5-10 Pus-cells Seen		P:58%	Deposits:NAD	
L:36%			L:38%		
E:4%			E:4%		
ESR: ½ Hr:12mm 1 Hr:24mm			ESR: ½ Hr:6mm 1 Hr:12mm		
Hb:78%			Hb:76%		
Sugar: 110mgs%			Sugar: 100 mgs%		
Urea: 25 mgs%			Urea: 22mgs%		

Drug: Neerkattu Pari Hara Chooranam		Diagnosis : Kalladaippu			
O.P.No : 94230	Name : Mr. Mahalingam	Age/Sex: 54/Male	From : 20/11/2012	To : 19/12/2012	No.of days treated: 29
Complaints and Duration : Pain present in lower abdomen, burning micturition, nausea since 20 days.					
INVESTIGATIONS					
Before Treatment			After Treatment		
Blood	Urine	Ultrasonogram - abdomen	Blood	Urine	Ultrasonogram – abdomen Response
TC: 9800 cells/cumm	Albumin :Nil	Rt.Kidney:9.6×4.0 cm Shows aa calculus Measuring 3mm is seen in the middle pole. Lt.Kidney:9.4×4.2cm Normal, No calculus UB: Shows 8mm calculus IMPRESSION:vesicle calculus	TC: 9200cells/cumm	Albumin :Nil	Rt.Kidney:Normal no calculus Lt.Kidney:Normal, No calculus UB: Normal IMPRESSION: Normal study OBSERVATION:GOOD RESPONSE
DC:	Sugar:Nil		DC:	Sugar:Nil	
P:66%	Deposits:3-5 Pus-cells Seen		P:60%	Deposits:3-5 Pus-cells seen	
L:30%			L:38%		
E:4%			E:2%		
ESR: ½ Hr:2mm 1 Hr:4mm			ESR: ½ Hr:1mm 1 Hr:3mm		
Hb:80%			Hb:78%		
Sugar: 120mgs%			Sugar:120 mgs%		
Urea: 25 mgs%			Urea: 25 mgs%		