A STUDY ON

VADHA KUNDALA KIRECHARAM

Dissertation Submitted to

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

Chennai – 32.

For the Partial fulfillment for Awarding the Degree of

DOCTOR OF MEDICINE (SIDDHA)

(Branch V – P.G. NOI NAADAL)

P.G. DEPARTMENT OF NOI NAADAL

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI – 627 002.

MARCH - 2010

ACKNOWLEDGEMENT

First of all, I wish to express my gratitude to my parents for their hearty wishes and sincere prayers.

I wish to thank the **Vice Chancellor, the Tamil Nadu Dr.M.G.R. Medical University,** Chennai for permitting me to undertake the Dissertation topic.

I represent my sincere thanks to **Dr.Soundara Rajan M.D(S),** Principal (I/C) and **Dr.Chandra Mohan Doss M.D(S)**, Vice Principal Government Siddha Medical College,Palayamkottai for providing all the necessary facilities.

I represent my sincere thanks to **Dr.R.Devarajan M.D(S),**Head of the Noi Naadal Post Graduate Department, Government Siddha Medical College, Palayamkottai for his valuable suggestions and guidance in the completion of the dissertation work.

I express my whole hearted thanks to **Dr.A.Vasuki Devi M.D(S),** Asst. Lecturer, Post Graduate, Noi Naadal Department, who gave a splendid guidance and untied the twisted knots to explore the depths and secrets in the work.

I express my deep sense of gratitude to **Dr.S.K.Sasi M.D(S),** Asst.Lecturer, Post Graduate Noi Naadal Department, for her affectionate

and valuable guidance given to me for this successful completion of this work.

I would like to thank **Dr.Ravi Chandran M.B.B.S. M.D.,** Reader, Modern Medicine, Government Siddha Medical College, Palayamkottai for his valuable guidance in modern aspect of approach to this study.

I express my sincere thanks to **Dr.V.S.Padma M.B.B.S., DMRD**. Radiologist, for her contribution in the completion of the work.

I express my thanks to **Mrs.T.Poonkodi M.A., M.Lis, M.Phil.,** Government Siddha Medical College, Palayamkottai for her co-operation in referring the library books.

I express my gratitude to **Annamalai Internet Café**, Palayamkottai for the brilliant lithographic work.

INTRODUCTION

The Siddha system of medicine is believed to have originated from Lord Shiva, the supreme God of Tamils and he is considered to be the chief of Siddhar. Lord Shiva teached this science to Shakthi, the Goddess and then to Nandhi, from them to common people by Siddhars. The person who attains the super natural power or perfection are called as “Siddhars”. They are super human beings mastering the wind wave, tide, gravity and other forces of nature.

Siddhars have fully investigated and explained the causes and the course of all diseases and their management. They have revealed the significance of mental health. They imparted their knowledge for the upliftment of the human life style.

Man

Man is the only being in the creation with all kinds of latent powers reaching upto the level of God. His only defect is that he doesn’t care to know that such powers are hidden in him and he has to make them patient by his perseverance.

Perfection in man’s nature is barred by maya and prevents from taking its proper course. Once this bar is removed nature rushes with all its potentialities and power.

An individual should maintain his health for the harmonious life.

‘‘உடம்பார் அழியின் உயிரார் அழிவர்
திடம்பட மெய்ஞானம் சேரவும் மாட்டார்
உடம்பை வளர்க்கும் உபாயம் அறிந்தே
உடம்பை வளர்த்தேன் உயிர்வளர்த் தேனே.’’

-திருமந்திரம்.

In Siddha system of medicine the human body’s mechanism starts the knowledge of cosmogenesis. The nature and human beings are interrelated.

‘‘அண்டத்தி லுள்ளதே பிண்டம்
பிண்டத்தி லுள்ளதே அண்டம்
அண்டமும் பிண்டமும் ஒன்றே
அறிந்து தான் பார்க்கும் போதே’’.

- சட்டமுனி ஞானம்

Man is said to be the microcosm and the universe is macrocosm. What exist in the universe, exist in man. The universe and its constituents including man are made up of five basic elements pancha boothams. They are Prithivi (land), Appu (water), Theyu (fire), Vayu (air) and Aakayam (space).

Alteration in ratio of panchabootham in human body leads to vitiation of three humours. Siddha system of medicine is mainly based on the humoral

theory. The three humours namely Vali, Azhal and Iyam. Any decrease (or) increase in ratio of the three humours causes disease in human body.

These three humours literally mean wind, bile and phlegm respectively Vatha, Pitha, Kabam are in different proportions 1: ½: ¼ .

“வழங்கிய வாதம் மாத்திரை யொன்றாகில்
தழங்கிய பித்தம் தன்னி லரை வாசி
அழங்குங் கபந் தானடங்கியே காலோடில்
பிறங்கியே சீவர்க்குப் பிச கொன்றுமில்லையே.”

- குணவாகட நாடி.

The sensory and motor functions of the body is based upon 96 Thathuvams (principles) and importance of diagnosis is stated in “Theraiyar Maruthuva Bharatham”.

In Theriayar Maruthuva Bharatham it is said that a physician must have a clear knowledge about the causative factors, normal physiological conditions, pathological changes, nature of its presentation and prognosis of the disease before treating the patient.

Disease is,

Any altered emotion which interferes with the normal gay attitudes prevailing in the soul binded body, causing an impact on the physical body itself is referred to as disease.It is of two types

- Physical disorders
- Psychological disorders like stress

Among the many physical disorders, the author has chosen the most prevalent, disturbing and distressful disorder “Vadha kundala kirecharam”. An attempt to elaborate the finest detail of this disease through the Siddha parameters has been accomplished.

SIDDHA PHYSIOLOGY

Human body is made up of two kinds of bodies.

(i) Sthula Sariram (visible body)

(ii) Sukkuma Sariram (invisible body)

Sthula Sariram includes,

Bones, muscles, blood vessels, nerves and all functional systems of human body. It is known as functional units of body.

Sukkuma Sariram,

This is the basic for Sthula Sariram. It makes the Sthula Sariram to be active.

The Universe is made up of five basic elements called

Earth (Prithivi) - மண்

Water (Appu) - நீர்

Fire (Theyu) - தீ

Air (Vayu) - காற்று

Space (Aagayam) - விண்

The human body is also made up of these five basic elements.

The basic elements exist in two forms.

(i) Sthula form (பருநிலை) – Recognised by our sense.

(ii) Sukkuma form (நுண்நிலை) - Not recognized by our sense.

Physiology → Basic process underlying the functioning of the species.

A basic thing for functioning of human beings explained by siddhars includes

- 96 Thathuvangal
- 7 Udal thathukkal
- 6 Suvaigal

The factors which influence in functioning of human body are,

- Udal Vanmai
- Udal thee

Siddhar's explained physiology on the basis of 96 thathuvangal (or) structural units. This explains the physical and chemical factors that are responsible for the origin, development and progression of life. They are as

96 Thathuvangal

External Thathuvas

(Sthula sariram)

(i) Ganaenthriyam (5)

- **Ear**
- **Nose**
- **Body**
- **Eye**
- **Tongue**

(ii) Pori -5

(Functions of five sense organs)

- **Hearing**
- **Touch**
- **Vision**
- **Smell**
- **Taste**

(iii) Kanmenthiriyam -5

(Functional organs)

- **Mouth**
- **Leg**
- **Arm**
- **Anus**
- **Genital organ**

(iv) Kanmavidayam – 5 (Functions of Kanmenthiriyam)

- **Speech**
- **Movements through legs**
- **Flexion and extension of arm**
- **Defaecation**
- **Evacuations of semen and ovum, contributes coitus**

Internal Thathuvas

(Sukkuma sariram)

(i) Anthakaranam -4

(ii) Arivu -1

(iii) Naadi -10

(iv) Vayu -10

(v) Aasayam -5

(vi) Kosam -5

(vii) Aatharam -6

(viii)Mandalam-3

(ix) Thodam -3

(x) Malam -3

(xi) Edanai -3

(xii) Gunam -3

(xiii)Vinai -2

(xiv) Raagam -8

(xv) Avathai -5

Seven Constituent Elements (7 Udal thathukkal)

1. Saaram – It enriches the functions of body and mind.
2. Senneeer (Blood) – It makes the basic functions of body perfect.
3. Oon (Muscle) – It gives structure to our body and gives supports to joints.
4. Kozhuppu (Fat) – Gives lubrication to our body organs to move.
5. Enbu (Bone) – It gives skeletal structure to body and protection
6. Moolai (Bone marrow) – It gives stability to bone.
7. Sukkilam / Suronitham – It helps to produce the new generation.

Arusuvaigal – We get from foods.

It has linked to Uyirthathu, Panchabootham and body functions.

இனிப்பு (Sweet) - Mann + Neer

புளிப்பு (Sour) - Mann + Thee

உப்பு (Salt) - Neer + Thee

கைப்பு (Bitter) - Vayu + Aagayam

கார்ப்பு (Pungent) - Vayu + Thee

துவர்ப்பு (Astringent)- Mann + Vayu

Uyir thathukkal

Vali	-	Vayu + Aagayam
Azhal	-	Thee
Iyam	-	Neer + Mann

Any alteration takes place in suvaigal, affects the uyirthathu and body functions.

Arusuvai (alterations)

↓

Uyirthathukkal (alterations)

↓

Diseases (Noi)

14 Reflexes – Vegams

These are

வாதம்	-	Flatus	தும்மல்	-	Sneezing
சிறுநீர்	-	Urine	மலம்	-	Faeces
கொட்டாவி	-	Yawning	பசி	-	Hunger
நீர்வேட்கை	-	Thirst	காசம்	-	Cough
இளைப்பு	-	Relaxation	நித்திரை	-	Sleep
வாந்தி	-	Vomit	கண்ணீர்	-	Tear
சுக்கிலம்	-	Semen	சுவாசம்	-	Breath

If we control (or) repress any one of the above 14 reflexes, it will produce the disease.

Udal vanmai – Three types

1. Iyarkaivanmai - Innate immunity
2. Seyarkaivanmai - Acquired immunity
3. Kalavanmai - Seasonal immunity

Udal Thee - Four body fires

The normal digestive fire is called as **Sadarakini** and it is a combination of Samana vayu, anilapitham and kiletha kabam.

Anila pitham is predominant while samana vayu takes the saaram to various parts of the body and maintains the functions of udhana and abana vayu, and kiletha kapham moisture the food in the digestive process.

1. **Samaakini**

   When the sadarakini is normal with the proper balance of the three constituents of it, it is called as samaakini. The balanced diet of an individual is properly digested in time.

2. **Mandhakini**

   An increased kiletham with the deficiency of anilapitham causes this condition, in which food is poorly digested and the process of digestion takes a longer time.

3. Deekshanakkini

An increased anilapitham with the deficiency of kiletham leads to this condition, causing excessive digestive fire burning a larger quantum of food in a lesser time.

4. Vishamakini

The Samana vayu is mostly affected thereby causing irregular prolonged digestion and may make the food, poisonous.

SIDDHA PATHOLOGY

Siddha pathology is called as “Kugarana Nilai”. If there is any change in physiological principles it may lead to pathological condition called as “Noi” (disease).

Pathology

This is the medical science and speciality practice, that deals with all aspects of the disease. The study of the cause and development of the disease as well as the structural and functional changes in the body that results from the disease is called as pathology.

Siddha Pathology

The derangement in the Arusuvaigal, Panchabootham, Mukkuttram and seven Udalkattugal etc form the basic pathology in the Siddha science. There are six suvaigal, each suvai is a combination of two boothas. So suvai has influence over Uyir thathukkal and associated with seven Udal thathukkal.

Thus the suvaigal, panchabootham, mukkuttram and udal kattugal are interlinked with one another. The right proportion of these factors in the body remains in physiological conditions and the proportion gets deranged in pathological conditions.

Disease

The disease literally means without ease, (uneasiness) the opposite of ease. It is a condition of the body (or) some part (or) organ of the body in which its function are deranged (or) disrupted.

"முப்பிணி மருவி முனிவு கொள் குறிப்பைத் தப்பா
தறியும் தன்மையும் வாத பித்த வையம் பிரிவையு
மவைதம் ஏறியிறங்கி இணைந்து கலந்து மாறி
மாறி வரும் செயற்கையாற் பிணி நேர்மையறிந்து
நீட்டு மருந்தே சீரியதாமெனச் செப்புவர் சித்தரே"

- கையெழுத்துப் பிரதி

The following synonyms are used to mention the noi in siddha system.

- Pini
- Varutham
- Achcham
- Thunbam
- Urogam
- Sugaveenam
- Viyaathi
- Asoukkiyam

- Thathuthoda verupadu
- Vinai
- Kugharana Nilai

Classification of diseases

Siddhars have identified 4448 diseases. They have classified the diseases mainly on the basis of three humours and its thontha states.

The diseases are diagnosed by the classical method called **"Envagai Thervugal"** and other **"Specific parameters"** which are explained in Siddha literatures.

Aetiological factors

1.According to Theran Karisal

‘‘நோயினுற் பத்திகேள் நோண்மைகூர் மைந்தனே
நோயாளி யென்பதனு நோயாளி முன்னே
நோய்கள் வினை காதாரமு நோய்கள் வரவேது
நோனாமை யால் வெகுளி நோனாத உணவால்
நோக்கமகு ணமதாக நோக்கியொழி தொழிலால்
நோக்கரென நடமாடி நோக்கி நடமிடலாம்
நோட்டக்காரரி நாடி நோட்டமொழி குரலால்
நோவியர் மாநோகு நோவு மருவுதலால்

நோன்பு விரதாதி பல நோய்கவரு மெலிவால்

நோஞ்சையென வணுகுணவு நோவு வயிறுதலால்

நோண்டவரிதென வேரை நோண்டியே ருதலால்

நோய்களுற் பத்திவரு நோய்கள் வினை விதையாய்

நோய்கள் வினை வயலாய் மெய்நோய்கள் வெகுமேளம்

நோதக வுரைத்தனமிற் நோய்கனை மேலே

நோயினிக லாளர் நோன்மையி தினியே".

-தேரன் கரிசல்

1. Kanmavinai
2. Dietary factors
3. Emotion and excitement
4. Starvation and fasting
5. Improper water intake
6. Directly seeing the sun with naked eye
7. Sexual contact with diseased lady etc

In siddha system of medicine the etiological factors are generally explained in three categories

1. Agakkaranam – Intrinsic factors
2. Purakkaranam – Extrinsic factors
3. Kanmam – Genetic factors

I. Intrinsic Factors

It is mainly concerned with

1. Diet
2. Derangement of mukkuttram
3. Alteration of seven Udal kattukal
4. Drugs
5. Suppression of Vegangal

II. Extrinsic Factors

It is mainly concerned with

1) Environmental changes
2) Seasonal changes
3) Nilam
4) Occupation
5) Ozhukkam
6) Omission of preventive aspects

Adverse intrinsic or extrinsic factors can cause disease which is quoted as follows

“தன்வினை புறவினை தாழினும் மிகினும்
உடலைப் பிணிக்கு முண்மையது தாமே”.

-கையெழுத்துப் பிரதி

III. Kanmam - Genetic factor

Kanmavinai is mentioned as an important cause for disease.

Alteration in Uyir Thathukkal

The three humours in equilibrium, maintains the health and when there is imbalance may produce disease. In the imbalanced state (increase or decrease) the humours produce symptoms which are tabulated below

TABLE - 1

Humour	Increase	Decrease
Vali	Abdominal distention, constipation, weakness, insomnia, tremors, breathlessness, blackish discolouration.	Body pain, feeble voice syncope, poor brain function.
Azhal	Yellowish discolouration of the eyes, skin, urine and stools, polyphagia, polydypsia, burning sensation all over the body, sleeplessness.	Cold, pallor, poor appetite, symptoms associated with growth of kabham.
Iyam	Loss of appetite, excessive salivation, heaviness, dyspnoea, excessive sleeping, white complexion, diminished activity.	Prominence of bone edges, dry cough, lightness, profuse sweating, palpitation, giddiness, dryness of joints.

Due to the relationship between Arusuvai, Mukkuttram and Panchabootham, we have to supplement the diet with opposite taste in managing the disease.

Alteration in Udal Thathukkal

Once the functional elements vatham, pitham, kabam get upset, repercussions are felt immediately over the somatic components due to the derangement of udal kattugal. The derangement (increase or decrease) of these seven components produce some symptoms.

TABLE - 2

S.no	Components	Increased features	Decreased features
1.	Saaram	Loss of appetite, Profuse salivation, Depression etc.	Loss of weight, dryness of the skin and diminished activity of the sense organs.
2.	Senneer	Increased blood pressure, Reddish eye and skin, Jaundice, Haematuria, Boils and tumours in different parts of the body, Spleenomegaly etc.	Dryness, Discolouration and paleness of the skin and desire for cold things.
3.	Oon	Tumours or extra growth around the neck, face, abdomen, thigh and genitalia.	Lethargy of five sense organs, Pain in the joints, Loss of subcutaneous fat.
4.	Kozhuppu	Identical to increasing features of oon, tiredness and dyspnoea on exertion.	Loin pain, emaciation and spleenomegaly.
5	Enbu	Excessive ossification and dentition	Weak bone , Pain in the joints, splitting of hair and nails.
6	Moolai	Non-healing ulcers, Swelling of smaller joints of hand and feet, Oliguria, Sense of heaviness of the body and eyes.	Osteoporosis, Blurring of vision.
7	Sukkilam / Suronitham	Increased sexual activity, Urinary calculi.	Pain in the genitalia, inability to reproduce.

Alteration In Reflexes (14 Vegangal)

There are 14 natural reflexes involved in the physiology of normal human beings and if willfully suppressed, the following are resulted.

‘‘முக்கால்மலமது பொல்லாத வாயுமூன்று தும்மல்
சிக்கா மலாறு சலதாரை விட்டு சிறுநடையும்
மைக்காடு கொண்ட விழியாய் மனிதர்க்கு வாய்ப்பதெனில்
எக்காலமும் பிணிவாராத காயம் இரும்பொக்குமே.’’

- சித்தமருத்துவாங்க சுருக்கம்

1. Vatham (Flatus)

This urge should not be suppressed. If it is suppressed it leads to chest pain, epigastric pain, abdominal pain, body ache, constipation, dysuria and indigestion predominates.

2. Thummal (Sneezing)

If suppressed it leads to headache, facial pain, low back pain and neuritic pain in the sense organs.

3. Siruneer (Urine)

If suppressed it leads to urinary retention, urethral ulcer, joint pain, pain in the penis, gas formation in abdomen.

4. Malam (Faeces)

If suppressed it leads to pain in the knee joints, headache, general weakness, flatulence and other diseases may also originate.

5. Kottavi (Yawning)

If suppressed it leads to indigestion, leucorrhoea, abdominal disorders and urinary disorders.

6. Pasi (Hunger)

If suppressed it leads to the tiredness of all organs, emaciation, syncope, apathetic face and joint pain.

7. Neer vetkai (Thirst)

If suppressed it leads to the affection of all organs and pain may supervene.

8. Kaasam (Cough)

If it is suppressed severe cough, bad breath and heart diseases will be resulted.

9. Ilaippu (Exhaustiveness)

If suppressed it will lead to fainting, urinary disorders and rigor.

10. Nithirai (Sleep)

All organs will get rest only during sleep. So it should not be avoided. If disturbed it will lead to headache, pain in the eyes, deafness and slurred speech.

11. Vaanthi (Vomiting)

If suppressed it leads to itching and symptoms of increased pitham.

12. Kanneer (Tears)

If it is suppressed it will lead to sinusitis, headache, eye diseases and chest pain.

13. Sukkilam (Semen)

If it is suppressed there will be joint pain, difficulty in urination, fever and chest pain.

14. Swaasam (Breathing)

If it is suppressed there will be cough, abdominal discomfort and anorexia.

ENVAGAI THERVUGAL

This is a unique method of the Siddha system for diagnosing the disease.

“நாடி ஸ்பரிசம் நாநிறம் மொழிவிழி

மலம் மூத்திரமிவை மருத்துவராயுதம்”

“மெய்க்குறி நிறந்தொனி விழி நாவிரு மலம் கைக்குறி”

- தேரையர்

“தொகுக்கலுற்ற அட்டவிதப் பரீட்சை தன்னை

துலக்கமுறும் பண்டிதரே தெளிவாகப்

பகுக்கரிய நாடியை நீ பிடித்து பாரு

வகுக்கரிய தேகமென தொட்டுப் பாரு

வளமான சரீரத்தின் நிறத்தைப் பாரு

சகிக்கரிய மலத்தைப் பாரு சலத்தைப் பாரு

சார்ந்த விழிதனைப் பார்த்து தெளிவாகக் காணே.”

- அகத்தியர் வல்லாதி 600

According to Siddha aspect, there are eight parameters which are used to diagnose the diseases.

- Naa (Tongue)
- Niram (Colour)
- Mozhi (Speech)
- Vizhi (Eye)
- Sparisam (Sense of touch)
- Malam (Stool)
- Moothiram (Urine)
- Naadi (Pulse)

On accessing the variations in the above said tools, the physician can find out the derangements of three humours and come to a proper diagnosis.

1. **Naa (Tongue)**

By the examination of tongue the following features are noted. Colour, Size, Shape, Coating, Anomalies, Surface, Movements, Local lesions, Ulcers, Fissures, Vesicles, Dryness, Moisture, Deviation of tongue, Pigmentation etc.,

2. Niram (Colour)

Pallor, Yellowish, Cyanosis, Hyperpigmentation, Hypopigmentation, Contusions could be noted.

3. Mozhi (Speech)

The volume, clarity and any disturbance in speech are to be noticed.

4. Vizhi (Eye)

Here the colour change, lacrimation, visual disturbances are to be noted. The nature of eyebrow and eyelids are also to be noted.

5. **Sparisam (Sensation)**

Temperature of the skin, smoothness, dryness, scaling, swelling, tenderness, sweating, any abnormal growths, internal organ enlargements, thickening of nerves, varicosity of veins, cutaneous changes, subcutaneous nodules should be find out.

6. Malam (Stool)

The colour, odour, froth, quantity, consistency of the stool and presence of any abnormal constituents such as blood, parasites etc., are taken as diagnostic criteria.

7. **Moothiram (Urine)**

The diagnostic method by examining urine is of two types.

- Neerkkuri and
- Neikkuri

Neerkkuri

Here the Niram (colour), Manam (smell), Nurai (frothy nature), Edai (specific gravity) and Enjal (quantity) of the voided urine are noted.

Neikkuri

"அருந்துமா றிரதமும் அவிரோதமதாய்
அ.ங்கல் அலர்தல் அகாலவூன் தவிர்ந்தழற்
குற்றளவருந்தி உறங்கி வைகறை
ஆடிக்கலசத் தாவியே காது பெய்
தொருமுகூர்த்தக் கலைக்குட்படு நீரின்
நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே."

- தேரையர்

To see Neikuri, before collecting the urine, the patient is asked to take a balanced diet and have a good sleep. After waking up from the bed in the early morning, the first voided urine is to be collected in a clean glass container and examined within one hour. A drop of gingelly oil is to be dropped on the surface of urine and seen under direct sunlight. By this method, the character of three humours is accessed.

- அரவென நீண்டின.்.தே வாதம் - Vaatha Neer spreads like a serpent.
- ஆழி போல் பரவின் அ.்.தே பித்தம் - Pitha Neer spreads like a ring.
- முத்தொத்து நிற்கின் மொழிவதென் கபமே - Kabha Neer remains like a pearl.
- அரவிலாழியும் ஆழியில் அரவும் அரவில் முத்தும் ஆழியில் முத்தும் தோற்றில் தொந்த தோடங் களாமே. - Combination of the above shapes indicates Thonda Thodam.

8. Naadi (Pulse)

It is a unique diagnostic method in Siddha system of medicine. It is responsible for the existence of life. The three humours namely Vali, Azhal and Iyam are in the ratio of 1: ½ : ¼ .

‘‘வழங்கிய வாதம்மாத்திரை யொன்றாகில்
தழங்கிய பித்தந்தன்னிலரை வாசி
அழங்குங்கபந் தானடங்கியே காலோடில்
பிழங்கிய சீவர்க்குப்பிச கொன்றுமில்லையே.’’

- குணவாகடம்

Any alterations, in these basic ratio results in disease.

AIMS AND OBJECTIVES

The author had selected the disease “Vadha Kundala Kirecharam” for dissertation work because,

This disease is more common in female than male, but it can affect both sex and all age groups.

The patients are disturbed both functionally and psychologically. Its generalized occurrence and agony undergone by the patients has made the author choose the disease.

AIM

To study the disease on the basis of Siddha physiology , Siddha pathology emphasizing more importance to Mukkuttram, Suvaigal, Panchabootha theory, Aayul thoda nirnayam , Udal thadhukkal and diagnose the patient on the basis of Envagai thervugal and confirm the prognosis of the disease through “Neikuri”.

OBJECTIVES

The objectives marked out to aspire the above said words.

- To collect all literary evidences about kirechara disease in detail.
- To study each and every aspect of the disease "Vadha kundala kirecharam" in the topic of its synonyms of definition, aetiology, classification, signs and symptoms , humoral pathogenesis, fate of the disease from various literature in Siddha aspect .
- To concentrate the clinical course of the disease "Vadha Kundala Kirecharam" by observing carefully its aetiology , pathogenesis (Mukkuttra Verupadu) clinical features , diagnosis and prognosis in patients.
- To study in detail about the incidence of the disease with age, sex, occupation, thinai, socio –economic status, habits and prevalence.
- To confirm the diagnosis in Siddha system with the help of modern parameters.

ELUCIDATION ABOUT VADHA KUNDALA KIRECHARAM

According to the Literature Dhanvanthri Vaithiyam – Part-II "Vatha Kundala Kirecharam" has been described as under.

வாத குண்டல கிரிச்சரம்

"இதமின்றி மூத்திரந்தான் யிற்றிற்றோர் துளியாய் வீழு
மதுநொந்து கடுத்தெரிந்து விதனமாக அழுந்திக் காணுங்
குதம்நொந்து நீரைக்கட்டி வயிறது பொருமிக் கொள்ளு
மதமிஞ்சு கிரிச்சனத்தில் வாதகுண்டலி யென் றோரே."

பாடல் எண் - 9

- தன்வந்திரி வைத்திய பாகம் - II

The meaning of the words in this poem.

வாத குண்டலி

வாயுவானது தொப்புளின் கீழ் வயிற்றில் அதிக வலியை உண்டாக்கி, பாம்பை போல சுற்றிக் கொண்டு மூத்திரத்தை தடுத்து உடம்பில் மரத்தல் உண்டு பண்ணி மூத்திரம் துளித் துளியாய் விழச் செய்யும் நோய்

கிரிச்சரம்

*மூத்திரத்தாரை அடைபட்டு மிக்க வருத்தத்தோடு கொஞ்சம் கொஞ்சமாய் மூத்திரத்தை விழச் செய்தல்.

இதம்	**இன்பமானது	-	Comfortable
மூத்திரம்	*சிறுநீர், அமுரி, மீடம்	-	Urine
இற்று	***இ.ந்து, சாரியை, முரிந்து	-	Discontinue
	இடையறுதல், நைந்து	-	Dribbling
நொந்து	நோதல்	-	pain
கடுத்து	*எரிச்சல், விருவிருத்தல், வலி,	-	burning sensation
	உளைதல்		pain
			boring pain
எரிந்து	*எரிச்சல், உடற்காந்தல்	-	burning sensation
	அழற்சி	-	Inflammation
விதனம்	*துக்கம், துன்பம், வேதனை	-	Grief
		-	Physical pain
அழுந்தி	*வருந்தல்	-	Pain
குதம்	**மலம் கழிக்கும் வாயில்	-	Anus
வயிறு பொருமல்	**வயிறு ஊதல்	-	Abdominal distension
மதம்	**மிகுதி, ***வலி	-	Abundance
			Pain
மிஞ்சு	**மிகுதல்	-	Excess
			To increase.

* T.V.Sambasivam Pillai Agarathi

** Tamil Lexion

*** Madurai Tamil Peragaradhi

“இதமின்றி மூத்திரந்தான் யிற்றிற்றோர் துளியாய் வீழும்”

சிறுநீரானது துளித்துளியாக விழல் சிறுநீர் கழிக்கும் போது வருத்தம் உண்டாதல்.

- Discomfort during micturition
- Dribbling of Urine.

“அதுநொந்து கடுத்தெரிந்து விதனமாக அழுந்திக் காணுங்”

சிறுநீர் கழிக்கும் போது எரிச்சல், அழற்சி, துன்பம் முதலியன உண்டாதல்.

- Painful burning micturition
- Scalding pain during urination

“குதம்நொந்து நீரைக்கட்டி வயிறது பொருமிக் கொள்ளும்”

- நீரானது கட்டிக் கொண்டு வலியுடன் வயிறு ஊதிக் கொண்டு குதம் நொந்து போதல்.
- pain in the perineal area and supra pubic region
- Abdominal distension due to retention of urine

“மதமிஞ்சு கிரிச்சனத்தில் வாதகுண்டலி யென்றோரே”.

மூத்திரதாரை அடைபடுவதால் வலி மிகுதியாக உண்டாதல்.

- Severe pain due to obstruction of urethral passage.

Thus, Dhanvantri’s lines can be summarised as follows

- Discomfort during micturition
- Dribbling of Urine
- Burning micturition
- Scalding pain during micturition
- Pain in the supra pubic region and perineal area.

REVIEW OF LITERATURES

Diseases of urinary system is well explained in many Siddha Literartures.

In **Theran karisal**,

"நீரிரு வினைக் குணத்தை
நீயறி விரித்துச் சொல்வாம்
நீரினைப் பெருக்கலொன்றே
நீரினையருக்க லொன்றே
நீரிழி வுடனே கொல்லும்
நீர்க்கட்டு வினைகளொன்று"

- தேரன் கரிசல்

In this poem Theran explains the classification of urinary diseases as,

- Neer Arugal Noi
- Neer Perugal Noi

Among these, the "Kirechara disease" is under the classification of Neer Arugal Noi.

Regarding Moothira kirecharam, etiology, clinical features and classification has been described in various texts.

Synonyms

- Neer churuku,
- Neer arukal
- Neer Kaduppu.
- Neer kattu

Definition

According to **Anubava Vaidhiya Deva Ragasiyam.**

கிரிச்சரம் என்பது வருத்தத்துடன் கொஞ்சம் கொஞ்சமாக மூத்திரத்தை விழசெய்வது.

- அனுபவ வைத்திய தேவரகசியம்.

Kirecharam is referred as dribbling of urine accompanied with pain.

According to **Pararasa sekaram**…

‘‘சிறுநீ ரெரிந்து துளிதுளியாய்ச்
சேரு நிறமு மஞ்சள்காய்
உறுமே சிவப்பாய் வெள்ளையுமாயுவாதி
மிகுந்து கடுத்து நொந்து
பெறுமே யன்றிப் புண்ணாகும்
பின்னு மபானங் கடுத்துளையும்
செறுமே பொருமுங் கீழ் வயிறு
தேகமெலியுங் **கிரிச்சரமே**’’

- பரராச சேகரம்

The disease is characterized by

- Voiding small amount of urine
- Dribbling of urine
- Yellowish discoloration of urine
- Haematuria
- Dysuria
- Burning micturition
- Lower abdominal pain and discomfort.

According to Theraiyar Karisal

நீரினையருக்கல் என்னும்

நீர்க்கட்டின் குணத்தைக் கேட்டி

நீதமில்லாமற் கோச

நீர்ப்புழை நெருப்புப் போலாம்

நீபனா யுதத்தாற்பட்ட

நீல வம்பரமாங்குக்கி'' ...

Obstruction of the urethral passage, causing retention of urine or discharge by other unusual ways, urine dribbling out after micturition. There is also frequently sudden stoppage of the stream of urine owing to the contraction of urethra.

According to **Theraiyar vagadam**

“மூத்திரக் கிரிச்சிக் குணங்கேளீர்

முடுகுந் துளியாய் விழும்

ஆற்றித் தூரம் நடக்கவொட்டா

தறுவை மருந்தா லற்றுவிடும்

தூற்றி விளைவாய் விளைந்திருந்தால்

துடையால் கடுகி விழுமென்று

மாற்றி மறுக்க வகை காண

மனுவோர்க் கெல்லா முரைப்பீரே’’

- தேரையர் வாகடம்

The disease is characterzied by

- Dribbling of urine
- Burning micturition
- Dysuria
- Unable to walk even for a short distance.

Noi varum vazhi: (Etiology)

“அதிக உட்டிணபதார்த்த மசீரண பதார்த்தத்தாலும்

அதிக சம் போகத்தாலு மதுபான மடுக்கலாலும்

அதிகன மானவஸ்து உண்டியிலடுக்கலாலும்

அதிகமூத்திர தன்னிற் **கிரிச்சன மடுக்கமென்னே.”**

-தன்வந்திரி வைத்தியம்

- Increased intake of hot and spicy food
- Indigested food
- Excessive indulgence in sexual activity
- Alcoholism
- Excessive intake of high calorie food.

According to yugi "**Vaithiya Chinthamani"**

"நவிலவே நாரியரைத் துரோகம் பண்ணி
நடுவிலே கைவிட்டுந ழுவி னோர்க்கு
குவிலவே குழந்தைகள் தான் பசித்திருக்கக்
கூடவேவைத் துண்ணாக் கொடுமை யோர்க்கு
தவிலவே தவிக் கவந்த பேர்களுக்குத்
தாகந்தான் றவிர்க்காத சண்டாளர்க்கும்
கவிலவே **மூத்திரமாங் கிரிச்சரம்** வந்து
கலக்கு மென்றுமாமுனி வர்கரு தினாரே."

- Cheating damsels
- Eating food while child is in hunger
- Not providing water to thirsty people

‘‘கருதியே மாப்பண்டங் கதித்து உண்ணல்

காலங்கள் மாறியே மிகப்பொ சித்தல்

பருதியே பகல்தனிலே ஸ்திரிசங் கித்தல்

பகல்தனிலே பால்கொள்ளல் பகல் உறங்கல்

நிருதியே நிசிதன்னிற் சயனஞ் செய்தல்

நிந்தையாம் லாகிரிகள் நிரம்பவுண்ணல்

வருதியே அக்கினியில் சஞ்சரிப்போர்

மகத்தான **கிரீச்சரத்தில் மருவு வாரே”**

-யூகி வைத்திய சிந்தாமணி

- Taking excessive carbohydrates
- Taking excessive food at irregular times
- Having sex at daytime
- Taking milk in the daytime
- Sleeping in the day time and late nights
- Excessive chewing of tobacco like products
- Working in a hot place.

According to **Mega Noi, Soothaga Noi and Arivaiyar Sinthamani**

‘‘மாறான கிரிச்சனம் தான் நாலதாகும்

வருகின்ற விதமதுதான் சொல்ல கேளு

வேறாக மாப்பண்டம் அதிகம் தின்றால்

விரைவாக உற்பனத்தின் செய்கையாலும்

கூறாக காலம் மாறி உண்டால்

கொடு பகலில் சம்போகம் செய்வதாலும்

வேறாக பாதி பகல் தனக்கு மேலே

வெறும் ஆவின் பால் உண்ணும் தன்மையாலும்''

''தன்மையுடனே பகல் உறங்கும் பேர்க்கும்

தப்பாமல் கள்ளு மிக குடிக்கும் பேர்க்கும்

மோனமுறவே தீ வெக்கை தினமும் கொண்டால்

முன்பகலின் சூடேக்க வெயிலு காய்ந்து

ஊனமுற சம்போகம் அழுந்திச் செய்தால்

உறவாக வேசியோரிடின்பம் கொள்ளல்

ஏனமுற இந்த வகை விதத்தினாலே

எழும் மூத்திர கிரிச்சனம் என்று சொல்லே.''

- மேகநோய், சூதகநோய் மற்றும்
அரிவையர் சிந்தாமணி

- Intake of carbohydrate rich diet
- Untimely food habits
- Noontime sexual indulgence
- Daytime sleeping
- Intake of excess toddy

- Exposure to high temperature
- Intake of hot and spicy food
- Exposure to fore noon sunlight
- Abnormal sexual activity
- Extramarital sex affair.

According to **Saraha Samhitha**

- Excessive job stress
- Taking very efficacious medicines
- Intake of toddy
- Fast running
- Taking excess non – vegetarian diet
- Taking undigested food.

According to **Jeeva Rakshamirtham**

- Taking food in untime
- Daytime sleeping
- Excessive indulgence in sexual activity
- Daytime sexual activity
- Exposure to sunlight
- Exposure to high temperature
- Taking narcotics.

According to Siddha Vaithiya Gurugulam

»ç¢ru«

nehŒ tU« tê

»ç¢rukhdJ Ú®¤Jthu§fëYŸs r›ÎfŸ RU¡fkiltÂdhY«, Ú®¤jhiuæš J®khär ts®¢Á c©lhtjhYk V‰gL»wJ. Ãunkf nehŒ c©lhdt®fS¡nf _¤Âu »ç¢ru nehŒ mÂfkhf V‰gL»wJ.

Types

In Dhanvanthiri vaidhiyam Moothira kirecharam is classified into 10 types.

"அடுத்திடும் வாதபித்த மருங்கபஞ் சந்நிவாதந்
தொடுத்தமூத் திரக்கிரந்தி சுக்கிலக்கிரிசங் காதம்
அடுத்த சக்கரமே வாதகுண்டலி வாதவத்தி
எடுத்திடுங் கிரிச்சனத்தின் பெயரிவை யீரைந்தாமே"

- தன்வந்திரி வைத்தியம்

1. Vaadha kirecharam
2. Pitha kirecharam
3. Kaba kirecharam
4. Sanni vaadha kirecharam
5. Moothira kirandhi kirecharam
6. Sukila kirecharam
7. Moothira kaadha kirecharam

8. Sakkara kirecharam

9. Vadha kundala kirecharam

10. Vadha vathi kirecharam

In Siddha system various types of Moothira kirecharam are described in various text books.

I. According to Yugi vaithiya Chindhamani 800

"தெரியவே கிரிச்சரத்தின் செயலைத் தானுஞ்
செப்பவே நாலுவகைச் சீருமாகும்
உரியவே வாத மூத்தி ரக்கி ரிச்சரம்
உகப்பான பித்த மூத்தி ரக்கி ரிச்சரம்
பரியவே சிலேத்தும மூத்தி ரக்கி ரிச்சரம்
பாங்கான மேகமூத்தி ரக்கி ரிச்சரம்
நரியவே கிரீச்சரந் தானால தாகும்
நாட்டமாய் உற்பத்தி விலக்கி கேளு"

- *யூகி வைத்திய சிந்தாமணி 800*

1. Vaadha kirecharam
2. Pitha kirecharam
3. Kaba kirecharam
4. Mega kirecharam.

II. According to **Para Rasa Sekaram**

''உற்றே தோன்றுங் கிரிச்சிந்தா நுரைத்தார் நாலு வகையாகச்

சொந்த வாத பித்தகபந் தொந்த மென்பரவைநாலும்''

- பரராச சேகரம்

1. Vaadha kirecharam
2. Pitha kirecharam
3. Kaba kirecharam
4. Thirithoda kirecharam.

III. According to **Mega noi, Soothaga noi and Arivaiyar Sindhamani**

"சொல்லுவேன் கிரிச்சனம் தான் நாளாதிரகும்

சொந்தமுறும் வாத கிரிச்சனம் தான் ஒன்று

வெல்லும் பித்த கிரிச்சனம் சேர்ப்ப கிரிச்சனம்

வீறான மேகத்தின் கிரிச்சனம் தான்

மெல்லவே இவை நாலு கிரிச்சனங்கள்

மேலான சுத்த முனியோர்கள் சொன்னார்கள்

தெல்லுகில் உள்ளவர்க்கு தெளிவாக

கொடுத்திட்டேன் முன்நூல் முறையை ஆய்ந்தே.''

1. Vaadha kirecharam
2. Pitha kirecharam
3. Kaba kirecharam
4. Mega kirecharam.

IV. According to **Anuboga Vaithiya Deva Ragasiyam**

1. Vadha moothira kirecharam
2. Pitha moothira kirecharam
3. Kaba moothira kirecharam
4. Thiri thoda moothira kirecharam.

V. According to **Jeeva Rakshamirdham**

1. Vaadha kirechara rogam
2. Pitha kirechara rogam
3. Kaba kirechara rogam
4. Thiri thoda kirechara rogam.

VI. According to **Sikitcha Rathna Theebam**

1. Vaadha kirechara rogam
2. Pitha kirechara rogam
3. Kaba kirechara rogam
4. Thiri thoda kirechara rogam.

VII . In **Roga Nirnaya Saram**

1. Vaadha kirechara noi
2. Pitha kirechara noi
3. Kaba kirechara noi
4. Mukkutra kirechara noi.

VIII. According to **Saraga Samhitha**

1	வாத தோடத்தினால் ஏற்படக்கூடியது	- Due to Vadham
2	பித்த தோடத்தினால் ஏற்படக்கூடியது	- Due to Pitham
3	கப தோடத்தினால் ஏற்படக்கூடியது	- Due to Kabam
4	மூன்று தோடத்தினால் ஏற்படக்கூடியது	- Due to Mukkutram
5	கல் அடைப்பினால் ஏற்படக்கூடியது	- Due to Calculi
6	மணல் போன்ற உப்புகள் சேருவதால் ஏற்படக்கூடியது	- Due to deposition of salt material
7	விந்து கட்டி தடைப்படுவதால் ஏற்படக்கூடியது	- Due to deposition of clotted semen
8	இரத்தம் உறைந்து கட்டுவதால் ஏற்படக்கூடியது	- Due to deposition of clotted blood.

IX. According to **Madhava Nidhanam**

1. Vadha Moothira Kirecharam
2. Pitha Moothira Kirecharam
3. Kaba Moothira Kirecharam
4. Sannipatha Moothira Kirecharam
5. Koothaja Moothira Kirecharam
6. Pureeshaja Moothira Kirecharam
7. Acharisha Moothira Kirecharam
8. Sukkaraja Moothira Kirecharam

DISEASES WITH SIMILAR SYMPTOMS OF VADHA KUNDALA KIRECHARAM

According to Roga Nirnaya Saaram

_¤Âuthj F©lè

motæ‰¿š nehÎ

_¤Âu« Jë¤ JëahŒ Ïw§F«

fhuz« - thÍ

According to Siddha Vaidhya Gurukulam

F¿Fz§fŸ

mo¡fo K¡fš, Úçw§fhkš Jo¤jš, _¤Âu¥ig fd¤jš, Ú®¤jhiuæš RU¡f«. Ú® ÃçÍ« nghJ Jë¤Jëahf btë¥glš. c£NL Kjèa Fz§fŸ c©lhF«.

According to Dhanvantri Vaidhyam part I

_¤Âuhtuz thj«

fh¤Âu§ fL¡F KªÂ fd¤J Ú®¡ fL¤jil¡FŠ

N¤Âu ÚuhH¤Â‰ RU¡bfd éjdK©lhŠ

rh¤Âu« tænwôJŠ rŠry äŠr¡ fhQ

_¤Âuh tuzthj äJbtd bkhêayhnk.

பொருள்: tæW fdkh» Ú®¡F¤தல் ஏ‰gL«.

ÁWÚ® éLifæš RW¡bf‹W F¤jš tè V‰gL«.

tæW c¥ò«.

äfÎ« ntjidia jU«.

நாடி நடை

Ã¤jthj¡ F¿fŸ

v©âa thjbkh‹W« Ã¤jäu© blGªJ jh»ÿ

ò©bzd Îl«ònehth« òifbaH baçÍ« beŠR

Â©zkhŒ ehtu©L ÁW¤j**Ú®¡ fL¤J éG«**

m©zyh® ciu¤jÎ©ik ahÍU ntjªjhnd.

- jdவந்திரி வைத்தியம்

பித்த வாத நாடி

குதித்திட்டப்பித்த வாதத்திற்றொந்தங் குறித்திடும் நோயினைக் கேளும்
மதித்திடவூன்வலித் தெரியும் நெஞ்சது நாவரண்டு **நீர்சிறுத்துமேயிறங்குந்**
துதித்திட வையத்திரண்டினிற் பித்தஞ் சொல்லொன்று வேகிடில்வண்டி
கதித்திடுஞ் சக்கிரம் போல துவாகுங் கழறு மிந்நாடி யினடையே.

- வைத்தியப் பெருங்குறள்

DETAILED PATHOLOGICAL VIEW OF THE DISSERTATION TOPIC

“வாதமாய் படைத்து பித்த வன்னியாய் காத்து

சேத்ம சீதமாய் துடைத்து .....”

- தேரையர் மருத்துவ பாரதம்

According to Siddha aspect, Azhal is said to be the protective agent of all activities of our body.

According to Thirumoolar,

“பிரிந்திடும் பித்தம் பேராஞ்சலத்தினில்”

It means place of the Azhal in the body is urine.

According to Yugi Muni,

“போமென்ற பித்தத்துக் கிருப்பிடமே கேளாய்

பேரான கண்டத்தின் கீழதாகும்”

It means place of the Azhal in the body is below the neck.

Azhal is formed by the bootham Theyu (Fire). The function of Azhal is to govern all the body’s conversion processes as well as its heat and energy producing capacities.

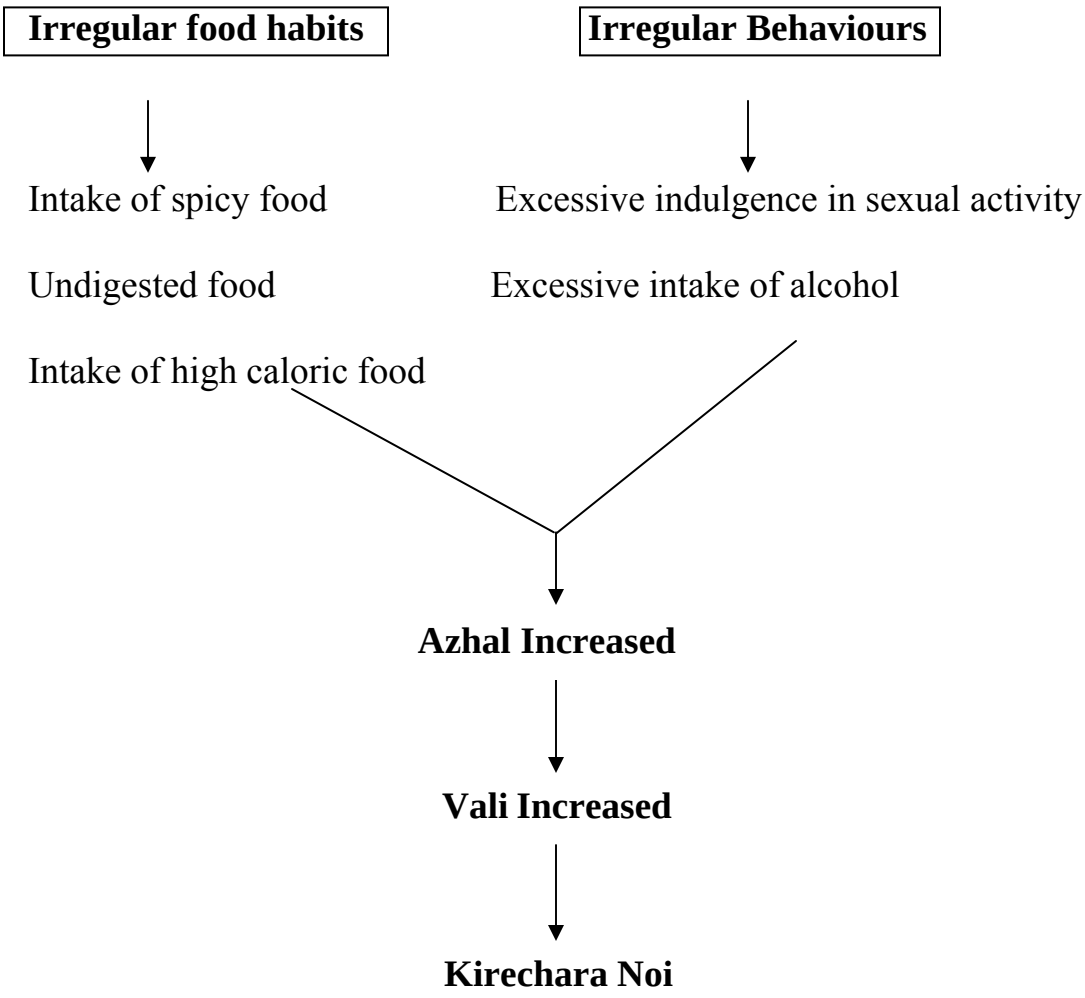
Azhal circulates in the body system in different types and help in the digestion and absorption of food and other general physiological functions of the body. Each type of Azhal has different functions. They are responsible for maintaining good health. When some of the environmental factors like diet and immoral activities disturb the Azhal, it loses its control which may be diminished or exaggerated. This may lead to Azhal noigal.

Irregular food habits and behavioural changes will affect the balance between the three humours which in turn create a change in the seven udal thathus, resulting in the sprouting up of diseases in the body.

The three humours maintain the upkeep of the body through their combined functioning. When they get deranged, they bring about diseases.

“அதிக உட்டிணபதார்த்த மசீரண பதார்த்தத்தாலும்
அதிக சம் போகத்தாலு மதுபான மடுக்கலாலும்
அதிகன மானவஸ்து உண்டியிலடுக்கலாலும்
அதிகமூத்திர தன்னிற் கிரிச்சன மடுக்கமென்னே.”

- தன்வந்திரி வைத்தியம்



Pathogenesis of Vadha Kundala Kirecharam

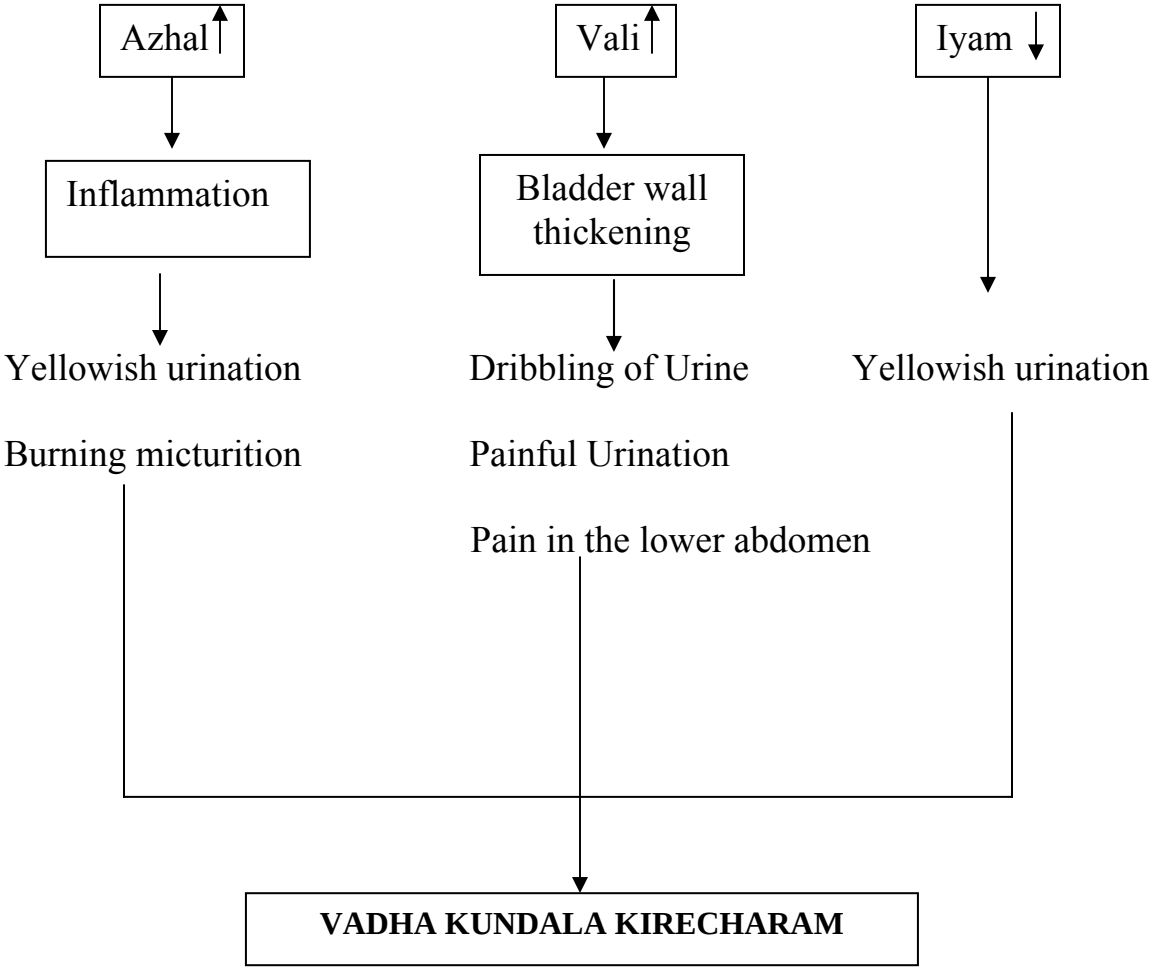
“வாதமலாது மேனி கெடாது”

When infection occurs in the urinary bladder Vadham is the first humour to get affected. If the infection is not treated properly with medicines, Azhal humour will get increased and lead to inflammation in the bladder wall.

This increased Azhal humour will also increase the already deranged Vali humour along with it, which leads to thickening of the bladder wall.

But Iyam is not proportionately increased with Vali and Azhal. This results in imbalance between the three humours which results in the disease Vadha Kundala Kirecharam.

PATHOGENESIS



Fate of the disease

If not properly treated in time with medicines, the infection and inflammation of the urinary bladder will spread and results in ascending infection of urinary tract, which involves the ureters and kidneys.

In this stage Iyam will get increased and the infection of the kidneys may result in pus formation and end up with acute renal failure.

Repeated infections of the urinary bladder and consequent healing with fibrosis of the bladder wall may result in carcinoma of the bladder wall.

Changes in Uyirthathukkal

TABLE -3 ALTERED CHARACTERS OF VALI

Increased Vali	Changes Observed
Praanan	Increased appetite, Dyspnoea on exertion
Abaanan	Dribbling of urine, Disturbance in urine flow, Retention of urine
Viyaanan	Painful burning micturition, pain in the perineal region and supra pubic region.
Samaanan	Abdominal distension, Increased appetite
Naagan	Poor Concentration
Koorman	Diminished vision due to cataract
Kirukaran	Increased appetite, Increased salivation
Devathathan	Tiredness, Weakness, Disturbance of sleep due to frequent urination.

TABLE – 4 ALTERED CHARACTERS OF AZHAL

Increased Azhal	Changes Observed
Anilam	Increased appetite
Ranjagam	Pallor, tiredness
Sathagam	Difficulty in emptying the bladder unable to control the urine.
Aalosagam	Disturbance in vision due to cataract
Praasagam	Wrinkles of skin, Dryness of skin.

TABLE – 5 ALTERED CHARACTERS OF IYAM

Decreased Iyam	Changes Observed
Avalambagam	Dyspnoea on exertion
Kiletham	Increased appetite
Tharpagam	Burning sensation in the eyes
Santhigam	Pain in the joints

TABLE -6 ALTERED CHARACTERS OF UDALTHATHUKKAL

Udalthathukkal	Changes Observed
Saaram	Generalised weakness, Dyspnoea on exertion
Senneer	Anaemia, Fatigability
Oon	Lethargy of five sense organs, pain in the joints
Kozhuppu	Difficulty in emptying the bladder unable to control the urine
Enbu	Pain in the joints, Hairfall
Moolai	Pain in the joints, tiredness, dullness of vision
Sukkilam / Sronitham	Increased sexual desire, menstrual disturbance

TABLE - 7

INTERPRETATION OF ENVAGAI THERVUGAL

Ennvagai Thervugal	Changes observed
Naa	Increased salivation
Niram	Pallor of the skin and Conjuctiva
Mozhi	Sama oli
Vizhi	Disturbance in vision and Pallor in conjuctiva
Sparisam	Tenderness in the supra pubic region
Malam	Niram – Yellowish brown Thanmai- Normal Alavu – Normal Kalappu - Nil
Moothiram Neerkkuri Thanmai	Dribbling of urine Burning micturition Scalding pain in the urethra during urination
Iyalbu	Niram – Yellow Manam – Aromatic Nurai – Present Enjal – Present Edai – Normal
Neikkuri	Aravil Aazhi Aazhil Aravam
Naadi	Vatha pitham Pitha vatham

‘‘Ïjä‹¿ _¤Âuªjh‹ æ‰¿‰nwh® JëahŒ ÅG«’’

- Discomfort during urination
- Dribbling of urine

Bladder stretch receptor activated

↓

Parasympathetic pelvic nerve stimulation

↓

Detrusor muscle initiate contraction

↓

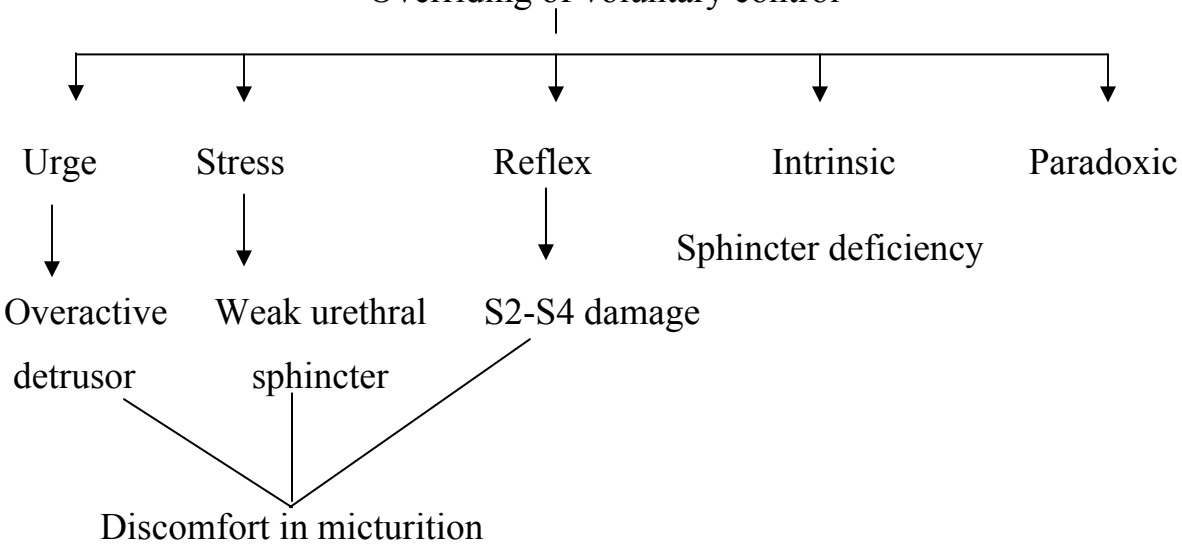
Appropriate place→ voiding

↓

Inappropriate place → Urethral sphincter constriction → No voiding

↓

Overriding of voluntary control



Dribbling of urine occurs due to trigone wall stimulation.

‘‘mJbehªJ fL¤bjçªJ éjdkhf mGªÂ¡ fhணுª’’

- Painful burning micturition
- Scalding pain during urination

This results from irritation of the bladder trigone. Inflammation causes difficulty in starting urination and burning sensation on urination. Irritation of the trigone causes bladder contraction, leading to frequent and painful urination.

Painful micturition most frequently results from an infection in the lower urinary tract.

Impaired renal concentration ability is the main reason for frequent urination in upper UTIs.

‘‘குத«நொªது Ú¡ரை¡கட்டி வயிறது பொருத்¡ கொŸளு

மதமிஞ்சு கிரிச்சனத்தில் வாதகுண்டலி யென்றோரே.”

- Pain in the perineal area and supra pubic region
- Abdominal distension due to retention of urine

Conditions that block (or) make the urethra difficulty for the urine to leave the bladder, or weaken its muscular tone will result in accumulation of the urine. Once the bladder is full, the urine simply overflows (unless the urine is

completely blocked) and small amounts leak out without the persons being able to contain or hold it.

Crysteinyl leukotrienes (cysLTs) are potent proinflammatory mediators released by mast cells upon activation. cysLTs have a wide range of biological effects, including ability to evoke smooth muscle contraction.

Stem cell factor and cytokines are responsible for the migration of mast cells to the detrusor. Human detrusor smooth muscle cells cultured under inflammatory conditions express and secrete several cytokines and growth factors, including IL – 8, IL – 6. Human detrusor smooth muscle cells secretory function is likely to influence mast cell number and migration to the detrusor in cystitis.

THEORETICAL VIEW OF THE DISSERTATION TOPIC

ANATOMY OF URINARY BLADDER

The urinary bladder is a hollow muscular organ, which acts as a temporary reservoir of urine brought to it by the ureters. The stored urine is passed out through the urethra, when the bladder is distended enough to feel the desire to micturate.

Position

The position of the urinary bladder varies with age. At birth the bladder is an abdominal organ, the internal urethral meatus being at the level of the upper border of symphysis pubis. The bladder starts descending at the age of 6 years and becomes a pelvic organ shortly after puberty when the internal urethral meatus is just above the plane of the inferior margin of the symphysis pubis. In adult, the empty bladder is entirely in the pelvic cavity but a distended bladder rises in the abdominal cavity. The position of the empty bladder in the adult is described as lying on the front part of pelvic floor, below the peritoneum and behind the pubic symphysis.

Shape and capacity

The shape of the urinary bladder is described as tetrahedral when empty

Globular (or) ovoid when distended.

Capacity varying from 120 to 320 ml.

The mean capacity of the bladder in adult male is – 220 ml

Maximum capacity – 500ml

When tension builds up in the bladder wall and pain is experienced, the pain is referred to T_{11} to L_2 and S_2 to S_4.

Surfaces, Borders and Angles

- 4 triangular surfaces
- 4 borders
- 4 angles

Borders are,

- Anterior border
- Right lateral border
- Left lateral border
- posterior border

The base (or) the fundus (or) the posterior surface is an inverted triangle with its narrow end pointed inferiorly and its broad end superiorly.

The apex (or) anterior angle is the meeting point of superior and inferolateral surfaces. It gives attachments to the median umbilical ligament. The neck (or) inferior angle is the lowest and most fixed part of the bladder, and

is the meeting point of inferolateral surfaces and the narrow end of the posterior surface.

Urethra begins at the neck of the bladder. The right and left lateral angles are located at the meeting points of inferolateral, posterior and superior surfaces.

Relations

Apex

The apex is connected to the umbilicus by the median umbilical ligament which represents the obliterated embryonic urachus.

Base

In female

It is related to cervix and to the vagina.

In male

The upper part of the base is separated from the rectum by the retrovesical pouch and the contained coils of intestine.

The lower part is separated from rectum by the seminal vesicle, terminations of the vas deferens.

The triangular area between the two deferent ducts is separated from the rectum by the retrovesical fascia of Denonvilliers.

The neck is the lowest and most fixed part of the bladder. It lies 3- 4 cm behind the lower part of the pubic symphysis, a little above the plane of the pelvic outlet. It is pierced by the internal urethral orifice.

In males

It rests on the base of the prostate with which its walls are continuous.

In females

It is related to the pelvic fascia which surrounds the upper part of urethra.

In infants

The bladder lies at higher level. The internal urethral orifice lies at the level of the superior border of the pubic symphysis. It gradually descends to reach the adult position after puberty.

Superior surface

In males

It is completely covered by peritoneum and it is in contact with the sigmoid colon and coils of the terminal ileum.

In females

Peritoneum covers the greater part of the superior surface, except for the small area near the posterior border, which is related to the supra vaginal part of

the uterine cervix .The peritoneum from the superior surface is reflected to the isthmus of the uterus to form the vesicouterine pouch.

Inferolateral surface

These are devoid of peritoneum and are separated from each another anteriorly by the anterior border and from the superior surface by the lateral borders.

In male

Each surface is related to the pubis, the puboprostatic ligaments, the retropubic fat, the levator ani and obturator internus.

In female

The relations are same as male except, that the puboprostatic ligaments are replaced by the pubovesical ligaments.

As the bladder fills, the infero lateral surfaces form the anterior surface of the distended bladder which is covered by peritoneum only in its upper part. The lower part comes into direct contact with the anterior abdominal wall there being no intervening peritoneum. This part can be approached surgically without entering the peritoneal cavity.

Ligaments of the bladder

True Ligaments

These are condensations of pelvic fascia around the neck and base of the bladder. They are continuous with the fascia on the superior surface of the levator ani.

1. The lateral true ligament of the bladder extends from the side of the bladder to the tendinous arch of the pelvic fascia.
2. The lateral puboprostatic ligament is directed medially and backwards. It extends from the anterior end of the tendinous arch of the pelvic fascia to the upper part of the prostatic sheath.
3. The medial puboprostatic ligament is directed downwards and backwards. It extends from the back of the pubic bone (near the pubic symphysis) to the prostatic sheath. The ligaments of the two sides form the floor of the retropubic space.

   In females, bands similar to the puboprostatic ligament are known as the pubovesical ligaments. They end around the neck of the bladder.
4. The median umbilical ligament is the remnant of the urachus.
5. The posterior ligament of the bladder is directed backwards and upwards along the vesical plexus of veins. It extends on each side from the base of the bladder to the wall of the pelvis.

False Ligaments

These are peritoneal folds, which do not form any support to the bladder. They include: (1) The median umbilical fold; (2) The medial umbilical fold ;(3) The lateral false ligament, formed by the peritoneum of the paravesical fossa; and (4) The posterior false ligament formed by the peritoneum of the sacrogenital folds.

Interior of the bladder

It can be examined by cystoscopy, at operation or at autopsy.

In an empty bladder, the greater part of the mucosa shows irregular folds due to its loose attachment to the muscular coat.

In a small triangular area over the lower part of the base of the bladder, the mucosa is smooth due to its firm attachment to the muscular coat. This area is known as the trigone of the bladder. The apex of the trigone is directed downwards and forwards. The internal urethral orifice, opening into the urethra is located here. The ureters open at the posterolateral angles of the trigone. Their openings are 2.5cm apart in the empty bladder, and 5 cm apart in a distended bladder. A slight elevation on the trigone immediately posterior to the urethral orifice produced by the median lobe of the prostate, is called the uvula vesicae. The base of the trigone is formed by the interureteric ridge or bar of

Mercier produced by the continuation of the inner longitudinal muscle coats of the two ureters. The ridge extends beyond the ureteric openings as the ureteric folds over the interstitial part of the ureters.

Blood supply

Artery main supply

Superior vesical artery

Inferior vesical artery

Additional supply

Obturator artery

Inferior gluteal artery

In females Uterine and vaginal arteries.

Veins

Vesical venous plexus.

Veins from this plexus drain into the internal iliac veins.

Lymphatic drainage

Most of the lymphatics terminates in the external iliac nodes.

Few pass to the internal iliac nodes (or) to the lateral aortic nodes.

Nerve Supply

Bladder is supplied by the vesical plexus of nerves. Vesicle plexus contains both sympathetic and para sympathetic components.

1. Sympathetic divisions $T_{11} - L_{2.}$

   ↓

   Inhibitory to the detrusor muscle.

   Motor to the sphincter vesicae.

2. Parasympathetic divisions S_2, S_3, S_4.

   ↓

   Inhibitory to the sphincter vesicae

   Motor to the detrusor muscle.

3. Pudental Nerve (S_2, S_3, S_4)

4. Sensory Nerves

   Pain sensation caused by distension of the bladder wall are carried mainly by parasympathetic nerves and partly by sympathetic.

Embryology

Epithelium of the urinary bladder develops from the cranial part of the vesico urethral canal.

Epithelium of the trigone of the bladder is derived from the absorbed mesonephric ducts.

The muscular and serous walls of the organ are derived from splanchnopleuric mesoderm.

Histology

The wall of urinary bladder consists of

- an outer serous layer
- a thick coat of smooth muscle
- a mucous membrane.

Mucous membrane is lined by transitional epithelium. The epithelium rests on a layer of loose fibrous tissue. There is no muscular mucosa.

In the empty bladder the mucous membrane is thrown into numerous folds. These folds disappear when the bladder is distended.

Mucous glands may be present in the mucosa specially near the internal urethral orifice

The muscle layer is thick. Internally and externally the fibres are longitudinal. In between them there is a thicker layer of circular fibres. Contraction of this muscle cost is responsible for emptying of the bladder.

PHYSIOLOGY OF THE URINNARY BLADDER

Excretion is the process by which the unwanted substances and metabolic wastes are eliminated from the body.

Various systems in the body are involved in performing the excretory functions viz

- Digestive system excretes food residues in the form of faeces
- Lungs remove carbondioxide and water vapour
- Skin excretes water, salts and some wastes. It also removes heat from the body.
- Liver excretes many substances like bile pigments, heavy metals, drugs, toxins, bacteria etc., through bile.

Although various organs are involved in removal of wastes from the body, their excretory capacity is limited.

The renal system or urinary system is the one having maximum capacity of excretory function and so it plays the major role in homeostasis.

Renal system includes

- a pair of kidneys
- ureters
- urinary bladder
- urethra.

Kidneys produce the urine

Ureters transport the urine to urinary bladder

Urinary bladder stores the urine until is voided

Urine is voided from bladder through urethra

Micturition is a process by which urine is voided from the urinary bladder. It is a reflex process in grown up children and adults and can be controlled voluntarily. The functional anatomy and nerve supply of urinary bladder are essential for the process of micturition.

FUNCTIONAL ANATOMY OF URINARY BLADDER

Urinary bladder consists of the body, neck and internal urethral sphincter. The smooth muscle forming the body of bladder is called detrusor muscle. It is formed by three ill-defined layers of muscle fibres viz., the inner longitudinal

layer, middle circular layer and outer longitudinal layer. At the posterior surface of the bladder wall, there is a triangular area called trigone. At the upper angles of this trigone, two ureters enter the bladder.

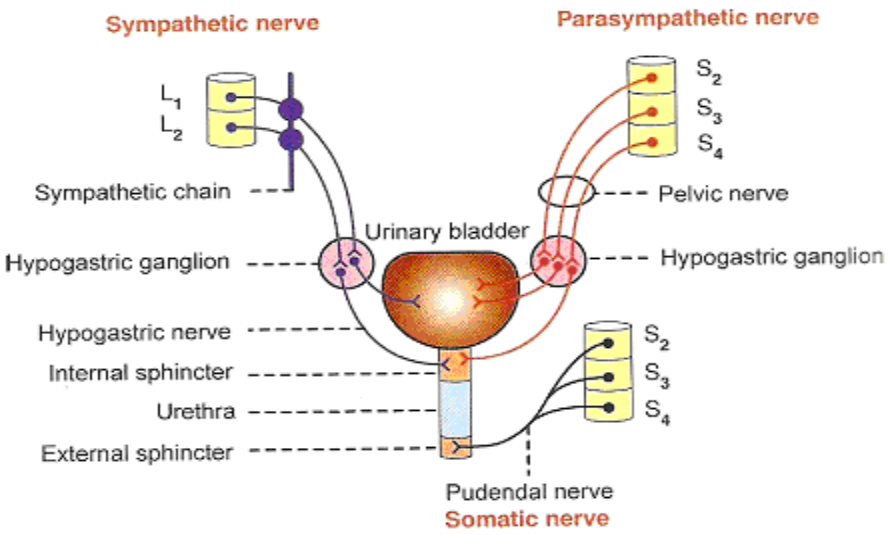
The lower part of the bladder is narrow and forms the neck. The distal end of the bladder is guarded by internal urethral sphincter. This sphincter is made up of detrusor muscle. It opens towards urethra. At the distal end of urethra, there is external urethral sphincter. It is made up of skeletal muscle fibres. Therefore, it is responsible for voluntary control of micturition.

TABLE - 8

Functions of nerves supplying urinary bladder and sphincters

Nerve	On detrusor muscle	On internal sphincter	On external sphincter	Function
Sympathetic nerve	Relaxation	Constriction	Not supplied	Filling of urinary bladder
Parasympathetic nerve	Contraction	Relaxation	Not supplied	Emptying of urinary bladder
Somatic nerve	Not supplied	Not supplied	Constriction	Voluntary control of micturition

Nerve Supply to Urinary Bladder and Urethra



FILLING OF URINARY BLADDER

Process of Filling

Urine is continuously formed in the nephrons and it is transported drop by drop through the ureters into the urinary bladder. When urine collects in the pelvis of ureter, the contraction sets up in pelvis. The contraction is transmitted through rest of the ureter in the form of peristaltic wave upto trigone of the urinary bladder. Peristaltic wave usually travels at a velocity of 3cm/second. It develops at a frequency of 1 to 5 per minute. The peristaltic wave moves the urine into the bladder.

After leaving the kidney, the direction of the ureter is initially downward and outward. Then, it turns horizontally before entering the bladder. At the entrance of ureters into urinary bladder, a valvular arrangement is present. When peristaltic wave pushes the urine towards bladder, this valve opens towards the bladder. The position of ureter and the valvular arrangement at the end of ureter prevent the back flow of urine from bladder into the ureter when the detrusor muscle contracts. Thus, urine is collected in bladder drop by drop.

A reasonable volume of urine can be stored in urinary bladder without any discomfort and without much increase in pressure inside the bladder (intravesical pressure). It is due to the adaptation of detrusor muscle. The relationship between the volume of urine and pressure in urinary bladder is studied by cystometrogram.

CYSTOMETROGRAM

Definition

Cystometry is the technique used to demonstrate the relationship between the intravesical pressure and the volume of urine in the bladder. Cystometrogram is the graphical registration (recording) of pressure changes in urinary bladder in relation to rise in the volume of urine collected in it.

Method of Recording Cystometrogram

A double lumen catheter is introduced into the urinary bladder. One of the lumen is used to infuse fluid into the bladder and the other one is used to record the pressure changes by connecting it to a suitable recording instrument.

First, the bladder is emptied completely. Then, a small and known quantity of fluid is introduced into the bladder at regular intervals. The intravesical pressure developed by the fluid is recorded continuously. A graph is obtained by plotting all the values of volume and the pressure. This graph is the cystometrogram.

Description of Cystometrogram

Cystometrogram shows three segments

Segment I

Initially, when the urinary bladder is empty, the intravesical pressure is 0. When about 100 ml of fluid is collected, the pressure rises sharply to about 10 cm H_2O.

Segment II

This segment shows the plateau, i.e the intravesical pressure remains more or less at 10 cm H_2O (level of segment I) without any change even after

introducing 300 to 400 ml of fluid. It is because of adaptation of urinary bladder by relaxation. It is in accordance with law of Laplace.

Law of Laplace: According to this law, the pressure in a spherical organ is inversely proportional to its radius, the tone remaining constant. That is , if radius is more, the pressure is less and if radius is less the pressure is more, provided the tone remains constant.

$$P = \frac{T}{R}$$

Where, P = Pressure, T = Tension and R = Radius.

Urinary bladder obeys Laplace law. In the bladder, the tension increase as the urine is filled. At the same time, the radius also increases due to relaxation of detrusor muscle. Because of this, the pressure rise is almost zero.

When about 10 ml of urine is collected, the pressure rises to about 10cm H_2O and now, the desire for micturition occurs. The desire for urination is associated with a vague feeling in the perineum. An additional volume of about 200 to 300 ml of urine can be stored in bladder without much increase in pressure. However, when total volume rises beyond 400 ml, the pressure rises sharply and the urge for micturition starts. And, beyond 600-700 ml of urine, voluntary control starts failing.

Segment III

As the pressure increases with collection of 300 to 400 ml of fluid, the contraction of detrusor muscle becomes intense, increasing the consciousness and the urge for micturition. Still, voluntary control is possible. The voluntary control is possible upto volume of 600 - 700 ml at which the pressure rises to about 35 to 40 cm H_2O.

When the intravesical pressure rises above 40 cm water, the contraction of detrusor muscle becomes still more intense. And voluntary control of micturition is not possible. Now, pain sensation develops.

Higher Centers for Micturition

Spinal centers for micturition are present in sacral and lumbar segments. But these spinal centers are regulated by higher centers. The higher centers, which control micturition, are of two types, inhibitory centers and facilitatory centers.

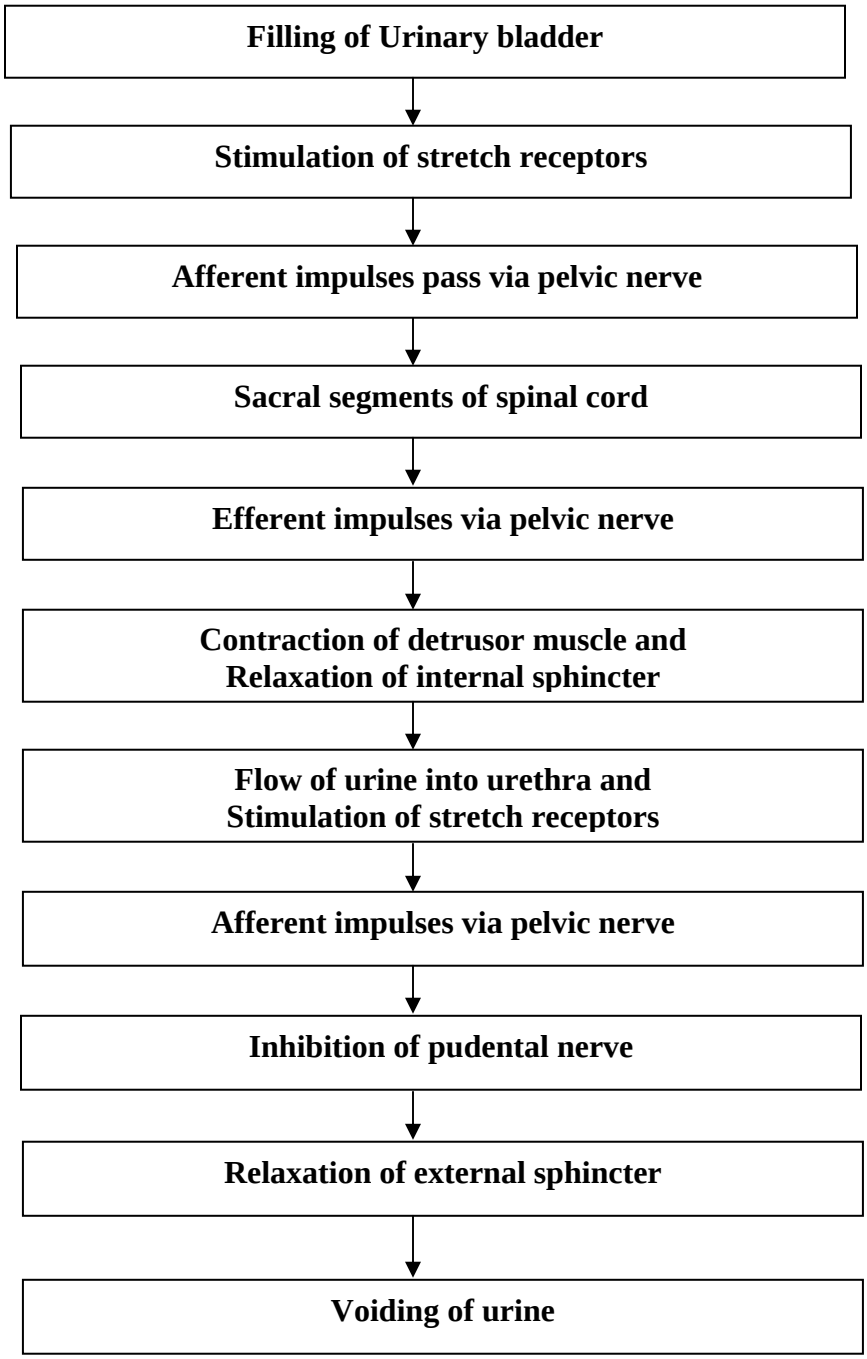
Inhibitory centers

- Midbrain
- Cerebral cortex

Facilitating centers

- Pons
- Posterior hypothalamus

MICTURITION REFLEX



PATHOLOGY

CYSTITIS

Definition

Inflammation of the urinary bladder mucosa due to different causes.

Etiology

Organisms are

- Escherichia coli
- Proteus
- Klebsiella
- Enterobacter
- Candida albicans – Much less often cryptococcal agents causes cystitis
- Schistosomiasis is rare
- Virus – adenovirus
- Chlamydia and Mycoplasma.

Predisposing factors

- Bladder calculi
- Urinary obstruction
- Diabetes Mellitus

- Instrumentation
- Patients receiving cytotoxic antitumour drugs such as cyclophosphamide – develop – hemorrhagic cystitis
- Radiation of the bladder region gives rise to radiation cystitis
- Women may develop Cystitis as a result of their shorter urethra
- The patient who are immune suppressed (or) – those receiving long term antibiotics.

Morphology

Most cases of cystitis take the form of nonspecific acute or chronic inflammation of the bladder.

Hemorrhagic cystitis

- The component of the cystitis is hemorrhagic
- Adenovirus infection may also cause.

Suppurative cystitis

Accumulation of large amounts of suppurative exudate.

Ulcerative cystitis

There is ulceration of large area of the mucosa

CHRONIC CYSTITIS

Persistence of the infection leads to chronic cystitis

Manifestations

Extreme haeping up of the epithelium with the formation of

- Red
- friable
- granular
- sometimes ulcerated

on the surface.

Chronicity of infection

Fibrous thickening in the muscularis propria and consequent thickening and inelasticity of the bladder wall.

Clinical triad of Cystitis

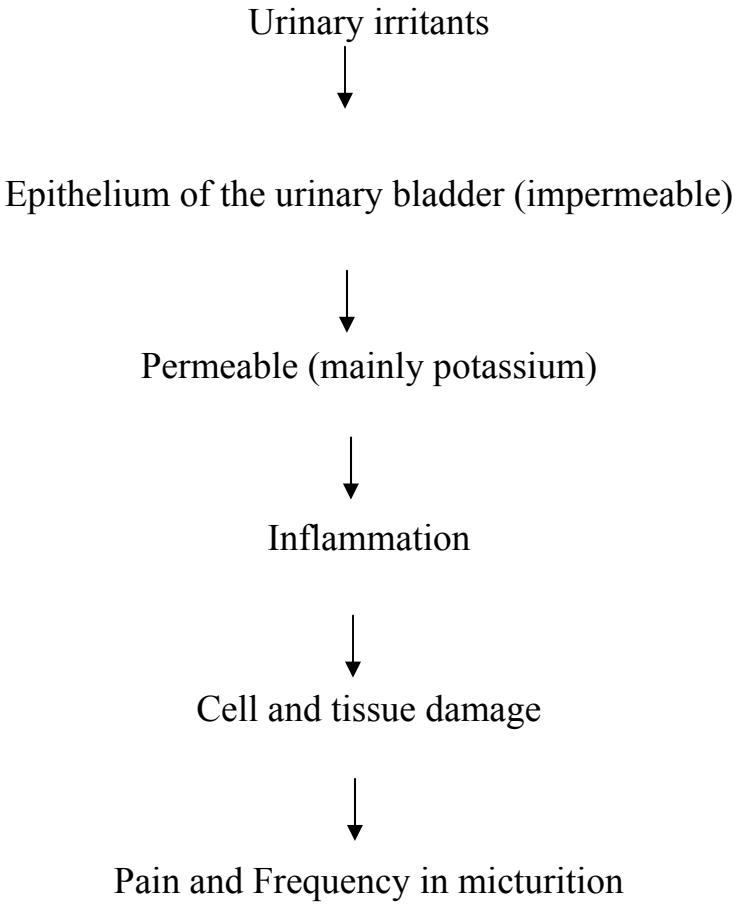
- Frequency in acute cases may necessitate urination every 15 to 20 minutes.
- Lower abdominal pain - localized over the bladder region or in the supra pubic region
- Dysuria - pain or burning sensation on urination

Systemic symptoms of Inflammation

1. Elevation of temperature
2. Chills
3. General malaise.

Pathology

The epithelium of the urinary bladder is lined by glycoprotein and glycosaminoglycans which provide the impermeable barrier. A defect in the GAG layer allows the leakage and absorption of urinary solutes to occur, the major solute being potassium. Ongoing exposure of the bladder wall to potassium causes an inflammatory response. This in turn releases the neuropeptide substance P_1, causing the release of mast cell mediators, histamines, leukotrienes, leads to tissue and cell damage and sensory nerve depolarization and fibrosis.



Special forms of cystitis

1. Bacterial cystitis
2. Schistosomal cystitis
3. Fungal cystitis
4. Viral cystitis
5. Interstitial cystitis
6. Follicular cystitis
7. Emphysematous cystitis
8. Gangrenous cystitis
9. Malakoplakia

TYPES OF CYSTITIS

BACTERIAL CYSTITIS

Cause: Bacterial urinary tract infection.

Organism: Gram negative especially Escherichia coli

Klebsiella pneumoniae

Streptococus fecalis

Proteus vulgaris

Pseudomonas aeruginosa

Chlamydia, Teachomatis

Mycoplasma hominis

Ureaplasma urealyticum

Bladder infections appear with two events

- Colonization of the urine by organism.
- Impairment of host defence mechanism.

UTI is rare in young children without urinary tract malformation

The incidence is increased in the sexually active female known as “Honey moon – cystitis”

In males – BPH – causes urinary retention

Predisposing Factors

- Short urethra in female
- Diverticula
- Foreign bodies – Stones

  Catheters
- Agents causing mechanical destruction of the bladder mucosa.

Diagnosis based on

- Clinical symptoms
- Urine analysis
- Biopsies should be avoided

Complications

Cystitis ⟶ Acute Inflammatory Response

↓

Frequently with epithelial erosion & Ulcerations

↓

Associated with Pyuria, Haematuria, Bacteruria.

SCHISTOSOMAL CYSTITIS

Cause- Schistosoma hematotrium is endemic in eastern Africa.

Mode of transmission

The intermediate host is a snail from which the cercariea escape.

↓

Swim to human host

↓

Penetrate skin

↓

Through the Lymphatics

↓

Move to the liver

↓

Maturation occurs

↓

Worms mate in the Mesentric plexus

↓

Move to the bladder

↓

Deposits its ova

Histopathology

Varies upon the stage.

Generally granulomatous response seen with

- Calcified eggs
- A variable degree of fibrosis
- Squamous or glandular Metaplasia

Complication

Greatly risk of bladder cancer

Especially squamous or glandular metaplasia

Adeno carcinoma

Neoplasia

Hydroureter

Hydronephrosis

Pyelonephritis

FUNGAL CYSTITIS

Organism

Majority of fungal infection caused by Candida species

Patient at risk

- Immuno suppressed - AIDS

  - transplant recipients

- Patient with diabetes mellitus
- Patients under going antibiotic therapy
- Patients with indwelling catheters
- Premature infants

Histopathology

- Inflammatory exudate with budding and non budding yeast cells
- Pseudohyphae

VIRAL CYSTITIS

Causative organisms

- Both RNA and DNA viruses
- Cytomegalovirus in immuno suppressed
- Polyoma virus

Symptoms

No specific symptoms.

INTERSTITIAL CYSTITIS

Cause : Unknown

Pathogenesis : Unknown

Female : Dominant

Cystoscopy

One group of patients shows pale areas with radiating vessels, ruptures forming Hunner's Ulcer which can be seen when the bladder is distended to at least 70 cm of H_2O pressure.

In second group of patients, there are no ulcers, only petechial, strawberries like haemorrhages called glomerulations.

EOSINOPHILLIC CYSTITIS

- Rare type
- Described in 1960
- Symptoms – similar to those of Interstitial Cystitis
- Most prominent is hematuria
- Age – middle Age
- Fistulas
- Diverticula

Histopathology

Urethral holes appear as, hole surrounded by slight inflammation, or occasionally by foreign body giant cells.

The cyst contains gas produced by E.coli or Aerobacter aerogenes (or) Clostridium perfringens.

FOLLICULAR CYSTITIS

- small, multiple nodular lesions can be seen cystoscopically in autopsy bladder.

Histopathology

Diagnosis confirmed by presence in the lamina propria of the lymphoid follicles with germinal centres. Slight elevation of urothelium.

Cystoscopy

Mucosa is swollen, reddish sometimes tumour.

Histopathology

- Transmural inflammation with a strong preponderance of eosinophils
- Inflammation and oedema are more intense in the lamina propria
- Focal muscle necrosis with variable degree of fibrosis
- Predisposing allergic conditions

Urine culture.

Sterile

Morphologic features are more important to differentiate from other form of cystitis.

EMPHYSEMATOUS CYSTITIS

- It is also a rare condition
- Occurs usually in elder patients with diabetes mellitus or are debilitated
- It may affect patients with bladder outlet obstruction
- Asymptomatic
- No organism associated with the follicle.

GANGRENOUS CYSTITIS

Organism

- Not specific
- Affects the debilitated or elderly patients suffering from systemic infections or from compromised cardiovascular function.
- The urothelium over the entire bladder is often necrotic and fibrinopurulent debris mixed with red blood cells forms a membrane on the urothelial surface.
- Inflammation and necrosis usually extend deeply and involve the detrusor muscle.
- It is lethal in 60% of patients.

MALAKOPLAKIA

Cause unknown

- Chronic inflammation that occurs as yellow plaques varying from a millimeter to 2.5 cm in size
- Although it has been reported in several extra urinary tract sites
- Immuno suppressed patients are more affected
- A key factor in Malakoplakia is an acquired defect in Monocyte bactericidal activity.

Clinical symptoms

- Infection (or) inflammation
- Frequency
- Urgency
- Dysuria
- Hematuria
- Female predominance
- Occurance-5^{th} to 7^{th} decades.

Cause

Indwelling catheter and therefore are located in the posterior wall or at the dome of the bladder.

Predisposing factors

Not distinct

The reactive nature of these lesion is shown by the fact that removal of the catheter results in disappearance of the lesion in almost all patients regardless of persisting urinary tract infection.

Histopathology

Variable amount of oedema of the lamina propria

Urothelium may be slightly hyperplastic often showing microabcesses

- Extravasation of red blood cells is not uncommon and occurs in association with dilatation of the vasculature and variable infiltrates of chronic inflammatory mononuclear cells.

1. **Early (or) predisposing phase:** Stromal oedema with lymphocytes and plasma cells and increasing numbers of histocytes.
2. **Classic phase:** Abundant large Von Hansemann histocytes.

   Intracellular and extracellular pathognomonic. Michaelis Gutmann bodies containing calcium phosphate.
3. **Final phase:** Few histocytes and rare Michaelis Gutmann bodies and being dominated by fibrosis.

POLYPOID, BULLOUS AND PAPILLARY CYSTITIS

Reactive lesions of bladder mucosa may display morphologic features of polypoid, bullous or papillary cystitis. The lesion referred to as "Catheter Cystitis" disappears after removal of catheter.

HEMORRHAGIC CYSTITIS

Generally associated with administration of the cytotoxic alkylating agent cyclophosphamide and other related phosphamides.

10% of patients receiving the drug tough it seen more frequently in children .

Also been associated with viruses such as adenovirus and BK virus especially in immuno suppressed patients.

Symptoms

- Similar as other cystitis
- Hematuria may persist for months and is sometimes extensive.

Histopathology

Variable degrees of mucosal denudation or ulceration along with pronounced oedema of the lamina propria and associated hemorrhage.

Complication

- Muscle necrosis
- Interstitial fibrosis
- Formation of pseudo membranes.

DIAGNOSIS

Urine Analysis

It reveals white blood cells (WBCs) or red blood cells (RBCs).

Urine Culture

The urine culture will confirm which bacteria are causing the cystitis.

A midstream urine specimen is collected by clean - catch method. For a clean catch, the patient washes the genital area before collecting the urine in a sterile container.

Ultra Sonogram

It is more useful to detect the bladder wall and residual urine.

Cystoscopy

It helps to rule out the bladder cancer. An examination in which a scope, a flexible tube and viewing device is inserted through the urethra to examine the bladder and urinary tract for structural abnormalities (or) obstructions such as tumour (or) stone.

Intra Venous Urogram (IVU)

A series of x-rays of the kidneys, ureter and urinary bladder with the injection of radio opaque dye into the vein then excreted into the urine to detect the abnormalities, kidney stone or any obstructions.

Retrograde Urethrography

A radio opaque dye is directly injected into the urethra, is useful for detecting stricture, out pouching or an abnormal connection of the urethra in both men and women.

Prevention

- Keeping the genital area clean.
- To wipe from front to back may reduce the chance of introducing bacteria from the rectal area to the urethra.
- Increasing intake of fluids may allow frequent urination to flush out the bacteria from the bladder.
- Urination immediately after sexual intercourse may help eliminate any bacteria.
- Refraining from urination for long period of time may allow bacteria to multiply. So frequent urination may reduce the risk of cystitis, in those who are prone to urinary tract infection.
- Take shower bath rather than tub bath, can help to prevent the infections.
- Avoid using deodorant sprays (or) feminine products in the genital area, these can irritate the urethra and bladder.

COMPLICATIONS

Cystitis rarely leads to complications. If the treatment is incorrect (or) non existent the bacteria, it can reach the kidney and cause Nephritis (or) Cystopyelonephritis.

Possible Complications

- Urethritis
- Recurrent urinary tract infection
- Acute kidney failure
- Kidney infection

EVALUATION OF THE DISSERTATION TOPIC

MATERIALS AND METHODS

The study in Noi Naadal aspect ie, pathological view of Vadha Kundala Kirecharam was carried out at the out patient department of P.G. Noi Naadal, Government Siddha Medical College Hospital, Palayamkottai.

CASE SELECTION AND SUPERVISION

The author has selected 20 cases with similar symptoms of Vadha Kundala Kirecharam as mentioned in Dhanvanthiri Vaithiyam volume II under the supervision of faculties and Head of the department of PG Noi Naadal department.

The detailed history of past and present illness, personal and family history were observed.

EVALUATION OF CLINICAL PARAMETERS

The clinical symptoms as mentioned in the poem,

- Discomfort during micturition
- Dribbling of urine
- Burning micturition

- Scalding pain in the urethra during micturition
- Pain in the perineal region
- Lower abdominal pain.

Associated features

- Fever
- Haematuria

HISTORY TAKING

- Family history
- Personal history
- Prevalence of age groups
- Diet habits
- Habitual works

-were noted

All the clinical signs and symptoms of "Vadha Kundala Kirecharam" and its diagnosis are done by assessing the following criteria.

CLINICAL DIAGNOSIS THROUGH SIDDHA PARAMETERS

- Poriyaal therdhal
- Pulanaal therdhal
- Vinaadhal

- Yaakaiyin nilai
- Gunam
- Changes in Kosam
- Changes in Udalthathukal
- Changes in Uyirthathukal
- Noi utra kaalam
- Noi utra nilam
- Envagai thervugal including neerkuri and neikuri
- Manikkadai nool.

MODERN PARAMETERS

For further detailed study of the disease, modern investigating parameters were used .

Physical examination

Tenderness in the supra pubic region.

Lab studies

Blood

- Total WBC count (TC)
- Differential count (DC)
- Haemoglobin (HB)
- Erythrocyte Sedimentation Rate (ESR)

Biochemical analysis

- Blood sugar
- Blood urea
- Serum cholesterol

Urine

- Albumin
- Sugar
- Deposits
- Specific gravity
- Culture and sensitivity test

Motion

- Ova
- Cyst
- Occult blood

Confirmatory Investigation

- Ultra sonogram
- Urine Culture and sensitivity test

OBSERVATION AND RESULTS

TABLE - 9 **AGE**

Sl.No	Age	No of cases	Percentage
1.	< 33 years	2	10
2.	33 – 66 years	14	70
3.	>66 years	4	20

Out of 20 cases, 70% of cases belonged to middle age group.

TABLE - 10 **SEX**

Sl. No	Sex	No of cases	Percentage
1.	Male	14	70
2.	Female	6	30

Among 20 cases, 70% were males and 30% were females.

TABLE - 11 OCCUPATION

S.No	Type of occupation	No of cases	Percentage
1.	Manual Labour	17	85
2.	House wife	3	15

The incidence of the disease was found to be higher in labouring groups (85%).

TABLE - 12 SOCIOECONOMIC STATUS

S. No	Socioeconomic status	No of cases	Percentage
1.	Middle class	5	25
2.	Below poverty line	15	75

Out of 20 cases, 75% were below poverty line and 25% of cases belonged to middle class.

TABLE - 13 PERSONAL HABITS

S.No	Habits	No of cases	Percentage
1.	Tea / Coffee (> 4times / day)	7	35
2.	Alcohol	3	15
3.	Smoking	5	25
4.	Yoga	2	10

Out of 20 cases, 35% of the cases were addicted to tea / coffee and 25% of cases were smokers.

TABLE -14 DIET HABITS

S.No	Diet	No of Cases	Percentage
1	Vegetarian	2	10
2	Non Vegetarian	18	90

90% of cases were taking non vegetarian diet.

TABLE – 15 SEASONAL VARIATION (PARUVA KAALAM)

S.No	Paruvakaalam	No of cases	Percentage
1.	Kaar kaalam	5	25
2.	Koothir kaalam	5	25
3.	Munpani kaalam	5	25
4.	Mudhuvaenir kaalam	5	25

TABLE - 16 THINAI (GEOLOGICAL DISTRIBUTION)

S.No	Thinai	No of cases	Percentage
1.	Marutham	18	90
2.	Neidhal	2	10

90% of cases reported from Marutha nilam.

TABLE –17 KAALAM (LIFE SPAN)

S.No	Kaalam	No of cases	Percentage
1.	Kabha kaalam (<33y 4m)	2	10
2.	Pitha kaalam (33y 5m - 66y 8m)	14	70
3.	Vatha kaalam (>66y 8m)	4	20

70 % of cases were under Pitha kaalam of their life span.

TABLE –18 SYMPTOMS

S.No	Clinical Features	No of Cases affected	Percentage
1	Discomfort during urination	20	100
2	Dribbling of urine	20	100
3	Burning micturition	20	100
4	Scalding pain during urination	20	100
5	Pain in the perineal region	20	100
6	Lower abdominal pain	20	100

The Clinical features of Vadha kundala kirecharam were positive in 100% of cases.

TABLE – 19 ALTERED CHARACTERS OF VALI

S.No	Increased Vali	No of cases affected	Percentage
1.	Praanan	12	60
2.	Abaanan	20	100
3.	Viyaanan	20	100
4.	Uthaanan	-	-
5.	Samaanan	20	100
6.	Naagan	-	-
7.	Koorman	8	40
8.	Kirukaran	12	60
9.	Devadhathan	20	100
10.	Thananjeyan	_	_

Out of 20 cases, Abaanan, Viyaanan, Samaanan, Devadhathan were affected in 100% of cases. Naagan and Koorman were affected in 40% of cases. Praanan was affected in 75% of cases. Kirukaran was affected in 60% of cases.

TABLE – 20 ALTERED CHARACTERS OF AZHAL

S.No	Increased Azhal	No of cases affected	Percentage
1.	Anilam	12	60
2.	Ranjagam	20	100
3.	Saathagam	20	100
4.	Aalosagam	8	40
5.	Praasagam	8	40

Ranjagam and Saathagam were affected in 100% of cases Anilam in 60% of cases and Aalosagam and Prasagam in 40% of cases.

TABLE – 21 ALTERED CHARACTERS OF IYAM

S.No	Decreased Iyam	No of cases affected	Percentage
1.	Avalambagam	8	40
2.	Kiletham	12	60
3.	Tharpagam	20	100
4.	Santhigam	16	80

Out of 20, Tharpagam was affected in 100% of cases. Kiletham was affected in 60% of cases and Sandhigam was affected in 80% and Avalambagam in 40% of cases respectively.

TABLE – 22 UDAL THAADHUKKAL

S.No	Decreased Udalthaadhukkal	No of cases affected	Percentage
1.	Saaram	20	100
2.	Senneer	20	100
3.	Oon	20	100
4.	Kozhuppu	20	100
5.	Enbu	16	80
6.	Moolai	16	80
7.	Sukkilam / Sronitham	7	35

Out of 20 cases, Saaram, Senneer,Oon, Kozhuppu were affected in 100% of cases. Enbu and Moolai were affected in 80% of cases, Sukkilam/Sronitham was affected in 35% of cases.

TABLE – 23 MANIKKADAI NOOL

S.No	Viral kadai alavu	No of cases affected	Percentage
1	9 1/4	12	60
2	9	8	40

Out of 20 cases in 60 % of cases the Manikkadai alavu was 9 1/4 Virarkkadai.

TABLE - 24 ENNVAGAI THERVUGAL

S.No	Ennvagai Thervu	No of cases affected	Percentage
1	Naa	12	60
2	Niram	7	35
3	Mozhi	-	-
4	Vizhi	13	65
5	Sparisam	20	100
6	Malam	-	-
7	Moothiram	20	100
8	Naadi	20	100

Out of 20 cases, Sparism, Moothiram, Naadi were affected in 100% of cases.

TABLE – 25 NEIKURI

S.No	Spreading of Oil	No of cases	Percentage
1	Aravil Aazhi	3	15
2	Aazhil Aravam	17	85

Out of 20 cases, 17cases showed features of Pitha Vatha neer.

TABLE - 26

INTERPRETATION OF UYIRTHAADHUKKAL

S. No	Op No	AGE	SEX	VALI										AZHAL					IYAM				
				Pr	Ab	Ud	Vi	Sn	Na	Ko	Kr	De	Tj	Pa	Ra	St	Aa	Ps	Av	Ki	Po	Th	Sd
1	25643	36	M	NA	**A**	NA	**A**	**A**	**A**	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
2	35061	43	M	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
3	36252	43	F	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
4	40127	70	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
5	41653	45	F	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
6	42441	25	F	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
7	48374	43	M	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
8	50842	61	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
9	51398	75	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
10	53222	33	F	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	NA
11	60512	60	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
12	60669	61	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
13	63997	34	F	**A**	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	**A**
14	63326	67	M	NA	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
15	65326	36	M	NA	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	NA
16	65622	38	F	NA	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	NA
17	65895	68	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	NA	**A**	**A**
18	66413	40	M	NA	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	NA
19	66424	32	M	NA	**A**	NA	**A**	**A**	NA	NA	**A**	**A**	-	**A**	**A**	**A**	NA	NA	NA	**A**	NA	**A**	NA
20	66522	65	M	**A**	**A**	NA	**A**	**A**	**A**	**A**	NA	**A**	-	NA	**A**	**A**	**A**	**A**	**A**	NA	A	**A**	**A**

Pr - Praanan
Ab - Abaanan
Ud - Udaanan
Vi - Viyaanan
Sn - Samaanan
Na - Naagan
Ko - Koorman
Kr - Kirukaran
De - Devadhathan
Tj - Thananjeyan
Pa - Pasakam
Ra - Ranjagam
St - Saadhagam
Aa - Aalosagam
Ps - Prasagam
Av - Avalambagam
Ki - Kiletham
Po - Pothagam
Th - Tharpagam
Sd - Sandhigam
A - Affected
NA - Not affected

TABLE - 27

INTERPRETATION OF UDALTHAADHUKKAL

S. No	OP.NO	AGE	SEX	SAARAM	SENEER	OON	KOZHUPPU	ENBU	MOOLAI	SUKKILAM/ SRONITHAM
1	25643	36	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
2	35061	43	M	**A**	**A**	**A**	**A**	**A**	**A**	**A**
3	36252	43	F	**A**	**A**	**A**	**A**	**A**	**A**	**A**
4	40127	70	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
5	41653	45	F	**A**	**A**	**A**	**A**	**A**	**A**	**A**
6	42441	25	F	**A**	**A**	**A**	**A**	**A**	**A**	**A**
7	48374	43	M	**A**	**A**	**A**	**A**	**A**	**A**	**A**
8	50842	61	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
9	51398	75	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
10	53222	33	F	**A**	**A**	**A**	**A**	**A**	**A**	**A**
11	60512	60	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
12	60669	61	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
13	63997	34	F	**A**	**A**	**A**	**A**	**A**	**A**	**A**
14	63326	67	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
15	65326	36	M	**A**	**A**	**A**	**A**	NA	NA	NA
16	65622	38	F	**A**	**A**	**A**	**A**	NA	NA	NA
17	65895	68	M	**A**	**A**	**A**	**A**	**A**	**A**	NA
18	66413	40	M	**A**	**A**	**A**	**A**	NA	NA	NA
19	66424	32	M	**A**	**A**	**A**	**A**	NA	NA	NA
20	66522	65	M	**A**	**A**	**A**	**A**	**A**	**A**	NA

A - Affected **NA - Not affected**

TABLE - 28

INTERPRETATION OF ENNVAGAI THERVUGAL

S.NO	OP NO	AGE	SEX	NAA	NIRAM	MOZHI	VIZHI	SPARISM	MALAM	MOOTHIRAM		NAADI
										NEERKURI	NEIKURI	
1	25643	36	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
2	35061	43	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
3	36252	43	F	**A**	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
4	40127	70	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
5	41653	45	F	**A**	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
6	42441	25	F	**A**	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
7	48374	43	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
8	50842	61	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
9	51398	75	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
10	53222	33	F	**A**	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
11	60512	60	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	Aa	VP
12	60669	61	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
13	63997	34	F	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
14	63326	67	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	Aa	VP
15	65326	36	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
16	65622	38	F	**A**	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
17	65895	68	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	AA	PV
18	66413	40	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
19	66424	32	M	**A**	NA	NA	NA	**A**	NA	Cloudy Urine	AA	PV
20	66522	65	M	NA	NA	NA	**A**	**A**	NA	Cloudy Urine	Aa	VP

A - Affected **AA - AazhilAravam** **PV- Pitha Vatham**
NA - Not affected **Aa - AravilAazhi** **VP – Vatha Pitham**

TABLE - 29

LAB REPORT- HAEMATOLOGY AND STOOL EXAMINATION

		BLOOD INVESTIGATIONS									BLOOD			MOTION TEST		
Case No	OP No	TC Cells / Cu.mm	DC					ESR		Hb gms%	Sugar mgms%	Urea mgms%	S.Cholesterol mgms%	Ova	Cyst	Occult blood
			P	L	E	B	M	½ hr	1 hr							
1	25643	9000	60	32	8	-	-	7	15	82	90	33	164	-	-	-
2	35061	7000	58	38	4	-	-	4	8	78	82	22	150	-	-	-
3	36252	8700	57	30	13	-	-	7	15	68	89	22	173	-	-	-
4	40127	9000	64	34	2	-		8	16	80	70	24	167	-	-	-
5	41653	7800	48	46	6	-	-	3	5	70	393	25	160	-	-	-
6	42441	16000	84	14	2	-	-	50	110	68	90	28	196	-	-	-
7	48374	9000	55	40	5	-	-	2	4	82	110	37	168	-	-	-
8	50842	9000	55	40	5	-	-	8	18	75	77	19	156	-	-	-
9	51398	9800	65	30	5	-	-	25	50	78	85	33	225	-	-	-
10	53222	8700	64	32	4	-	-	15	30	71	99	30	189	-	-	-
11	60512	9000	62	34	4	-	-	2	4	82	127	23	146	-	-	-
12	60669	7000	48	48	4	-	-	6	10	66	93	20	150	-	-	-
13	63997	8200	59	39	2	-	-	4	8	75	86	28	165	-	-	-
14	63326	10500	65	30	5	-	-	2	5	68	128	18	147	-	-	-
15	65326	6900	50	47	3	-	-	3	6	80	103	33	164	-	-	-
16	65622	8600	54	44	2	-	-	3	7	68	72	29	245	-	-	-
17	65895	9000	50	45	5	-	-	7	14	78	110	25	165	-	-	-
18	66413	5900	68	30	2	-	-	4	8	82	82	35	196	-	-	-
19	66424	8500	65	35	2	-	-	5	10	88	78	25	189	-	-	-
20	66552	7800	52	44	4	-	-	6	12	76	99	37	161	-	-	-

TABLE -30

LABORATORY INVESTIGATION – URINE

Case No	OP No	Albumin	Sugar	Deposits				Sp.Gravity	Culture
				Puscel	Epi C	RBC	Crys		
1	25643	Nil	Nil	2-4	-	-	-	1.020	Proteus vulgaris
2	35061	Nil	Nil	3-4	1-2	2-3	-	1.010	E.coli
3	36252	Nil	Nil	2-3	2-5	-	-	1.018	E.coli
4	40127	Nil	Nil	2-3	-	-	-	1.011	E.coli
5	41653	Nil	Nil	3-5	1-2	-	-	1.017	E.coli
6	42441	Nil	Nil	2-3	1-2	-	-	1.020	E.coli
7	48374	Nil	Nil	1-2	-	-	-	1.015	Proteus vulgaris
8	50842	Nil	Nil	Few	-	-	-	1.010	Proteus vulgaris
9	51398	Nil	Nil	5-6	-	-	-	1.010	E.coli
10	53222	Nil	Nil	4-5	Few	-	-	1.020	E.coli
11	60512	Nil	Nil	2-3	-	-	-	1.018	E.coli
12	60669	Nil	Nil	1-2	-	-	-	1.012	E.coli
13	63997	Nil	Nil	3-5	-	-	-	1.016	E.coli
14	63326	Nil	Nil	2-3	-	-	-	1.010	E.coli
15	65326	Nil	Nil	3-4	-	-	-	1.018	E.coli
16	65622	Nil	Nil	1-2	3-4	-	-	1.020	Proteus vulgaris
17	65895	Nil	Nil	Few	-	-	-	1.022	E.coli
18	66413	Nil	Nil	Few	-	-	-	1.010	E.coli
19	66424	Nil	Nil	2-3	1-2	-	-	1.010	E.coli
20	66552	Nil	Nil	3-4	1-2	-	-	1.020	E.coli

DISCUSSION

The author has chosen the topic "Vadha Kundala Kirecharam" mentioned in Dhanvanthri Vaithiyam Volume - II under Moothira Kirechara Roga Nitharam for the dissertation work.

INTERPRETATION OF CLINICAL PARAMETERS

Age

Middle aged people (70%) were affected more commonly.

Sex

Males were affected more commonly (70%). This might be due to their work which increases the azhal kutram.

Occupation

80% of patients were belonging to labour group and their job which increases the Azhal kutram.

Socio - economic status

75% of cases were belonged to the below poverty line.

Diet Habits

Non - vegetarians (90%) were affected more commonly.

Seasonal variations

The disease is aggravated during kaarkalam and koothirkaalam due to derangement of Azhal humour.

Thinai

90% of the cases were reported from Marutha Nilam, and 10% of cases are belonged to Neidhal Nilam.

Kaalam (Life Span)

Out of 20 cases, 70% cases were found to be within pithakaalam.

INTERPRETATION OF CLINICAL FEATURES

Symptoms of Vadha Kundala Kirecharam

The symptoms of vadha kundala kirecharam were found to be present in 100% of cases.

INTERPRETATION OF SIDDHA PARAMETERS

Changes in Uyirthathukkal

ALTERED CHARACTERS OF VALI

Out of 20 cases, Abaanan, viyaanan, samaanan and devathathan were affected in 100% of cases.

ALTERED CHARACTERS OF AZHAL

Out of 20 cases, Ranjagam and sathagam were affected in 100% of cases.

ALTERED CHARACTERS OF IYAM

Out of 20 cases, Tharpagam was affected in 100% of cases.

ALTERED CHARACTERS OF UDAL THATHUKKAL

Out of 20 cases, Saaram, Senneer, Oon, kozhuppu were affected in 100% of cases.

INTERPRETATION OF ENVAGAI THERVUGAL

Out of 20 cases, Sparisam, moothiram, naadi were affected in 100% of cases.

INTERPRETATION OF MODERN PARAMETERS

Manual Examination

Tenderness in the supra pubic region.

Laboratory Investigations

Urine Culture

Growth of Escheria coli and proteus vulgaris organism present.

Ultra sonogram

In all cases the ultra sonogram impression gave the result of Bladder wall thickening.

HIGHLIGHTS OF THE DISSERTATION TOPIC

"Vadha Kundala Kirecharam" comes under Moothira Kirechara Roga Nithanam in Dhanvanthiri Vaithiyam - Volume II which is characterized by discomfort during urination, dribbling of urine, burning micturition, scalding pain during voiding urine, pain in the perineal region, lower abdominal pain.

- In this disease vadha kundala kirecharam changes in Azhal humour plays a vital role, which is first affect then vali humour is affected.
- Improper diet habits and irregular behavioural changes are responsible for the disease vadha kundala kirecharam. These leads to aggravation of Azhal and Vali humour.
- The modern parameters also play an important role in the diagnosis
- The clinical features of Vadha kundala kirecharam can be correlated with cystitis in modern aspect.

Now days this disease is confirmed by several scientific investigations like urine culture and ultrasonogram. In ancient days there are no any scientific investigations. But our Siddhars are confirmed this disease by only nature methods like Neikuri, Neerkuri and Envagai thervugal which is the highlights of Siddhars.

NOI KANIPPU VIVADHAM - DIFFERENTIAL DIAGNOSIS

rªãthj »ç¢rd«

éjKW Ú®éL§fhš éjdnkh blçÎ K©lh§

fjKW Ú®ÁtªJ fêªJ R¡»yK« ÅG

kjKW eh‰wK©lh kæèaš khnd nfshŒ

ÏJFzŠ rªãthj¡ »ç¢rd bk‹d yhnk.

- தன்வந்திரி வைத்தியம்

- Pain in the urethra during voiding urine
- Burning micturition
- Haematuria
- Semen excreted along with urine
- Foul smelling urine.

Although the features of burning micturition, pain in the urethra during voiding urine are present, the symptoms of dribbling of urine, pain in the perineal area, lower abdominal pain are absent, which are present in vadha kundala kirecharam.

வாதகிரிச்சரம்

‘‘மேயநீர் விடுக்கில் நோவாம் மூழ்ந்தநீர் மிகவு நாறு
மேயநீர்த் துவாரங் காந்தி யெரிந்திடும் விதனமுண்டாந்
தோயுமிக் குணங்கள் வாதகிரிச்சன மென்ன தோன்றும்
வாயுமா முனிவன் சொன்னா னறிகுவீர் புவியுள்ளோரே’’

- தன்வந்திரி வைத்தியம்.

- Pain in the urethra during urination
- Unpleasant odour urine
- Burning sensation.

Although the features of burning micturition, pain and agony are present, the symptoms of dribbling of urine, supra pubic pain are absent, which are present in Vadha Kundala Kirecharam.

_¤Âu »uªÂ

K‹dnk Ïu¤j« ÅG _¤Âu« tuhkYŸns
c‹åna baçÎ©lhF nkhJ fšbyç¥gh‹ nghny
J‹ånt jidahŒ Ú® thJy§fnt Å¡fK©lh
bk‹åš _¤Âu¡ »uªÂ¡ »ç¢rd äJ bt‹nwhnk.

- தன்வந்திரி வைத்தியம்

- Bleeding occur before urination
- Anuria
- Burning micturition
- Pain resembles like renal calculi
- Generalised Oedema.

Although the features of burning micturition is present, the symptoms of dribbling of urine, pain in the perineal area, lower abdominal pain are absent, which are present in vadha kundala kirecharam.

Vivathathukuria Noigal	**Common Symptoms**	**Absent Symptoms**
Sanni Vadha Kirecharam	Burning micturition Pain in the urethra during urination	Dribbling of urine Lower abdominal pain
Vadha Kirecharam	Burning micturition Pain in the urethra during urination	Dribbling of urine Pain in the perineal region
Moothiram Kiranthi	Burning micturition	Lower abdominal pain Dribbling of urine

CONCLUSION

Identification of disease and its pathogenesis are pre requisite for medical practice. A detailed history taking clinical examinations as per siddha guide liness are necessary to arrive at precise diagnosis.

The study on Vadha Kundala Kirecharam was carried out in the dissertation, giving importance to the characteristics of the disease like,

- Discomfort during urination
- Dribbling of urine
- Burning micturition
- Scalding pain in the urethra during urination
- Pain in the perineal region
- Lower abdominal pain

Diagnosis can be carried out by detailed history taking, classical clinical examination of siddha system neikuri, manikadai nool and changes in seven physical constituents and three humours.

The dissertation vadha kundala kirecharam can be diagnosis through signs, symptoms and parameters like,

Naadi - Pitha vadham / Vatha pitham

Neerkuri - Yellowish cloudy urine

Neikuri - Aravil Aazhi / Aazhil Aravam

Manikadainool - 9¼ virarkadai alavu will show the fate of the disease and can confirm this disease by allied parameters.

Ultrasonogram

Urine culture and sensitivity test.

This study on vadha kundala kirecharam may be correlated with cystitis which had given relevance to modern clinical entity.

P.G. NOI NAADAL DEPARTMENT

GOVT. SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI

A STUDY TO DIAGNOSE "VADHA KUNDALA KIRECHARAM' THROUGH SIDDHA DIAGNOSTIC METHODOLOGY

PROFORMA

1.O.P.No	: ……	6. Name	: ……..
2. I.P. No	: ……	7. Age (years)	: ……..
3. Bed No	: ……	8. Sex	: ……..
4. S. No	: ……	9. Occupation	: ……..
5. Date	: ……	10. Income	: Rs. ……/month

11. Address : ……

……..……

Signature of Department faculty

12. Complaints and duration:

……

……

……

13. History of present illness:

……

……

……

14. Past history:

……

……

……

15. Family history:

……

……

……

16. Personal history:

……

……

HABITS		**1.No**	**2.Yes**	
17. Betelnut chewer	:	☐	☐	_____
18. Tobacco	:	☐	☐	_____
19. Tea	:	☐	☐	_____
20. Coffee	:	☐	☐	_____
21. Smoking	:	☐	☐	_____
22. Alcohol	:	☐	☐	_____
23. Yoga	:	☐	☐	_____
24. Food habits	: V	☐	NV ☐	

GENERAL ETIOLOGY FOR VADHA KUNDALA KIRECHARAM

	1.No	**2.Yes**	
25. Increased intake of spicy foods	☐	☐	_____
26. Indigested food	☐	☐	_____
27. Heavy intake of food	☐	☐	_____
28. Excessive indulgence in sexual activity	☐	☐	_____
29. Alcoholism	☐	☐	_____

CLINICAL SYMPTOMS OF VADHA KUNDALA KIRECHARAM

	1.Absent	**2.Present**	
30. Discomfort during micturition	☐	☐	_____
31. Dribbling of urine	☐	☐	_____
32. Burning micturition	☐	☐	_____
33. Scalding pain in the urethra	☐	☐	_____
34. Pain in the perineal region	☐	☐	_____
35. Lower abdominal pain	☐	☐	_____

ASSOCIATED SYMPTOMS

36. Fever ☐ ☐ _____

37. Haematuria ☐ ☐ _____

GENERAL EXAMINATION

38. Weight : ☐☐☐ kgs

39. Temperature : ☐☐☐☐☐ ° F

40. Pulse rate : ☐☐☐ /minute

41. Heart rate : ☐☐☐ /minute

42. Respiratory rate : ☐☐☐ /minute

43. Blood pressure : ☐☐☐ / ☐☐☐ mmHg

		1. Absent	**2. Present**	
44. Pallor	:	☐	☐	_____
45. Jaundice	:	☐	☐	_____
46. Cyanosis	:	☐	☐	_____
47. Lymphadenopathy	:	☐	☐	_____
48. Pedal edema	:	☐	☐	_____
49. Clubbing	:	☐	☐	_____
56. Jugular venous pulsation	:	☐	☐	_____

VITAL ORGANS EXAMINATION

	1.Normal	**2.Affected**	
50. Stomach	☐	☐	_____
51. Liver	☐	☐	_____
52. Spleen	☐	☐	_____
53. Lungs	☐	☐	_____

54. Heart ☐ ☐ _____

55. Kidney ☐ ☐ _____

56. Brain ☐ ☐ _____

SIDDHA SYSTEM OF EXAMINATION

IYMPORIGAL / IYMPULANGAL

	1.Normal	2.Affected	
57. Mei/Ooru	☐	☐	_____
58. Vaai/Suvai	☐	☐	_____
59. Kann/Oli	☐	☐	_____
60. Mookku/Naatram	☐	☐	_____
61. Sevi/Osai	☐	☐	_____

KANMENTHIRIYANGAL / KANMAVIDAYANGAL

	1.Normal	2.Affected	
62. Kai/Thaanam	☐	☐	_____
63. Kaal/Kamanam	☐	☐	_____
64. Vaai/Vasanam	☐	☐	_____
65. Eruvaai/Visarkkam	☐	☐	_____
66. Karuvaai/Aanantham	☐	☐	_____

67. **YAAKKAI**

1. Vali ☐ 2. Azhal ☐ 3. Iyam ☐

4. Valiazhal ☐ 5. Valiiyam ☐ 6. Azhalvali ☐

7. Azhaliyam ☐ 8. Iyavali ☐ 9. Iyaazhal ☐

68. **GUNAM** 1. Sathuvam ☐ 2 . Rasatham ☐ 3. Thamasam ☐

KOSAM

	1. Normal	2. Affected	
69. Annamaya Kosam	☐	☐	_____
70. Praanamaya Kosam	☐	☐	_____
71. Manomaya Kosam	☐	☐	_____
72. Vingnanamaya Kosam	☐	☐	_____
73. Aanandamaya Kosam	☐	☐	_____

UDAL THATHUKKAL	**1. Normal**	**2. Affected**	
74. Saaram	☐	☐	_____
75. Senneer	☐	☐	_____
76. Oon	☐	☐	_____
77. Kozhuppu	☐	☐	_____
78. Enbu	☐	☐	_____
79. Moolai	☐	☐	_____
80. Sukkilam	☐	☐	_____

UYIR THATHUKKAL

I. VALI	**1. Normal**	**2. Affected**	
81. Uyirkkaal (Praanan)	☐	☐	_____
82. Keelnokkukkaal (Abaanan)	☐	☐	_____
83. Nadukkaal (Samaanan)	☐	☐	_____
84. Melnokkukkaal (Udhaanan)	☐	☐	_____
85. Paravukaal (Viyaanan)	☐	☐	_____
86. Vaanthikkaal (Naahan)	☐	☐	_____
87. Vizhikkaal (Koorman)	☐	☐	_____
88. Thummikkaal (Kirukaran)	☐	☐	_____

89. Kottavikkaal (Devathathan) ☐ ☐ _____

90. Veengukkaal (Dhananjeyan) ☐ ☐ _____

II. AZHAL **1. Normal 2. Affected**

91. Aakkanal (Anala pitham) ☐ ☐ _____

92. Vannayeri (Ranjaka pitham) ☐ ☐ _____

93. Ollolithee (Prasaka pitham) ☐ ☐ _____

94. Nokkuazhal (Aalosaka pitham) ☐ ☐ _____

95. Aatralangi (Saathaka pitham) ☐ ☐ _____

III. IYAM **1. Normal 2. Affected**

96. Ali Iyam (Avalambagam) ☐ ☐ _____

97. Neerppi Iyam (Kilethagam) ☐ ☐ _____

98. Suvaikaan Iyam (Pothagam) ☐ ☐ _____

99. Niraivu Iyam (Tharpagam) ☐ ☐ _____

100. Ondri Iyam (Santhigam) ☐ ☐ _____

MUKKUTRA MIGU GUNAM

I. VALI MIGU GUNAM **1. Absent 2. Present**

101. Emaciation ☐ ☐

102. Blackish discolouration of the body ☐ ☐

103. Desire to take hot food ☐ ☐

104. Shivering of the body ☐ ☐

105. Abdominal distension ☐ ☐

106. Insomnia ☐ ☐

107. Constipation ☐ ☐

108. Weakness	☐	☐
109. Weakness of sense organs	☐	☐
110. Giddiness	☐	☐
111. Sluggishness	☐	☐

II. AZHAL MIGU GUNAM	**1. Absent**	**2. Present**
112. Yellowish discolouration of the skin	☐	☐
113. Yellowish discolouration of the eye	☐	☐
114. Yellowish discolouration of urine	☐	☐
115. Yellowish discolouration of faeces	☐	☐
116. Increased appetite	☐	☐
117. Burning sensation of the body	☐	☐
118. Insomnia	☐	☐

III. IYAM MIGU GUNAM	**1. Absent**	**2. Present**
119. Excessive salivation	☐	☐
120. Eraippu (dyspnoea)	☐	☐
121. Heaviness of the body	☐	☐
122. Whiteness of the body	☐	☐
123. Chillness of the body	☐	☐
124. Reduced appetite	☐	☐
125. Cough	☐	☐
126.Increased sleep	☐	☐
127.Sluggishness	☐	☐

128. STATE OF MUKKUTRAM

1. Vali ☐ 2.Azhal ☐ 3.Iyam ☐ _____

129. NOI UTRA KAALAM

1. Kaarkaalam ☐ 2. Koothirkaalam ☐
3. Munpanikaalam ☐ 4. Pinpanikaalam ☐
5. Ilavenirkaalam ☐ 6. Muthuvenirkaalam ☐

130. NOI UTRA NILAM

1. Kurinji ☐ 2. Mullai ☐ 3. Marutham ☐
4. Neithal ☐ 5. Paalai ☐

ENNVAGAI THERVUKAL

NAA

131 . Maa Padinthiruththal 1. Absent ☐ 2. Present ☐ _____

132. Niram 1. Karuppu ☐ 2. Manjal/Sivappu ☐ _____
3. Veluppu ☐ 4. Others ☐ _____

133. Suvai 1. Pulippu ☐ 2. Kaippu ☐ 3. Inippu ☐
4. Thuvarppu ☐ 5. Kaarppu ☐ 4. Uppu ☐

134. Vedippu 1. Absent ☐ 2. Present ☐ _____

135. Vaai neer ooral 1. Normal ☐ 2. Excess ☐ 3. Scanty ☐ 4. Absent ☐

136. NIRAM 1. Karuppu ☐ 2. Manjal ☐ 3. Veluppu ☐ 4. Maaniram ☐

137. MOZ HI 1. Sama oli ☐ 2. Uraththa oli ☐ 3. Thaazhntha oli ☐

VIZHI

138. Niram 1. Karuppu ☐ 2. Manjal ☐ 3. Sivappu ☐ 4. Veluppu ☐

139. Kanneer 1. Normal ☐ 2. Abnormal ☐ _____

140. Erichchal 1. Absent ☐ 2. Present ☐ _____

141. Peelai seruthal 1. Absent ☐ 2. Present ☐ _____

MEIKKURI

142. Veppam 1. Midhaveppam ☐ 2. Miguveppam ☐ 3. Thatpam ☐

143. Viyarvai 1. Normal ☐ 2. Increased ☐ 3. Reduced ☐ _____

144. Thodu vali 1. Absent ☐ 2. Present ☐ _____

MALAM

145. Niram 1. Karuppu ☐ 2. Manjal ☐ 3. Sivappu ☐ 4. Veluppu ☐

146. Thanmai 1. Ilagal ☐ 2. Irugal ☐ 3. Thin ☐ 4. Bulky ☐

147. Alavu 1.Normal ☐ 2. Increased ☐ 3. Decreased ☐

148. Kalichchal 1. Absent ☐ 2. Present ☐ _____

149. Seetham 1. Absent ☐ 2. Present ☐ _____

150. Vemmai 1. Absent ☐ 2. Present ☐ _____

MOOTHIRAM (**Siruneer)**

Neerkkuri

151. Niram 1. Venmai ☐ 2. Manjal ☐ 3. Sivappu ☐ 4. Others ☐

152. Manam 1. Absent ☐ 2.Present ☐ _____

153. Nurai 1. Normal ☐ 2.Increased ☐ 3. Reduced ☐

154. Edai(Ganam) 1. Normal ☐ 2. Increased ☐ 3. Reduced ☐

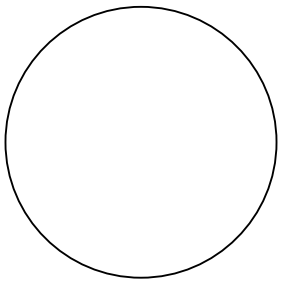
155. Enjal(Alavu) 1. Normal ☐ 2. Increased ☐ 3. Reduced ☐

156. Thadavai 1. Day ☐ 2. Night ☐ _____/day

157. **Neikkuri**

1. Aravam ☐
2. Mothiram ☐
3. Muthu ☐
4. Aravil Mothiram ☐
5. Aravil Muthu ☐
6. Mothirathil Aravam ☐
7. Mothirathil Muthu ☐
8. Muthil Aravam ☐
9. Muthil Mothiram ☐
10. Asathiyam ☐
11. Mellena paraval ☐

Diagram



NAADI (KAIKKURI)

Naadi Nithanam

158. Kaalam

1. Kaarkaalam ☐ 2. Koothirkaalam ☐

3. Munpanikaalam ☐ 4. Pinpanikaalam ☐

5. Ilavenirkaalam ☐ 6. Mudhuvenirkaalam ☐

159. Desam 1. Kulir ☐ 2. Veppam ☐ _____

160. Vayathu 1. 1-33yrs ☐ 2.34-66yrs ☐ 3. 67-100yrs ☐

161. Udal Vanmai 1. Iyyalbu ☐ 2. Valivu ☐ 3. Melivu ☐

162. Naadiyin Vanmai 1. Vanmai ☐ 2. Menmai ☐

163. Naadiyin Panbu

1. Thannadai ☐ 2. Puranadai ☐ 3. Illaiththal ☐

4. Kathiththal ☐ 5. Kuthiththal ☐ 6. Thullal ☐

7. Azhunthal ☐ 8. Paduththal ☐ 9. Kalaththal ☐

10. Munnookku ☐ 11. Pinnokku ☐ 12. Suzhalal ☐

13. Pakkanokku ☐

164. Naadi nadai

1. Vali ☐ 2. Azhal ☐ 3.Iyam ☐

4. Valiazhal ☐ 5. Valiiyam ☐ 6. Azhalvali ☐

7. Azhaliyam ☐ 8. Iyavali ☐ 9. Iyaazhal ☐

10. Sanni ☐

165**. MANIKKADAI NOOL** ☐ **(Viral Kadai Alavu)**

166. Date of Birth ☐☐ ☐☐ ☐☐☐☐

167. Time of Birth ☐

168. Place of Birth ☐

169. Pirandha Thinai ☐

170. **NATCHATHIRAM**

1. Aswini ☐	2.Barani ☐	3.Karthikai ☐
4. Rohini ☐	5.Mirugaseeridam ☐	6.Thiruvathirai ☐
7. Punarpoosam ☐	8.Poosam ☐	9.Aayilyam ☐
10. Makam ☐	11.Pooram ☐	12.Uththiram ☐
13. Astham ☐	14. Chiththirai ☐	15. Swathi ☐
16. Visakam ☐	17. Anusam ☐	18. Kettai ☐
19. Moolam ☐	20. Pooradam ☐	21. Uththiradam ☐
22. Thiruvonam ☐	23. Avittam ☐	24. Sadhayam ☐
25. Poorattathi ☐	26. Utthirattathi ☐	27. Revathi ☐
28. Not known ☐		

29**. Paadham** 1. I ☐ 2. II ☐ 3. III ☐ 4. IV ☐

171. **RAASI**

1. Mesam ☐	2. Rishabam ☐	3. Midhunam ☐
4. Kadakam ☐	5. Simmam ☐	6. Kanni ☐
7. Thulam ☐	8.Viruchiham ☐	9. Dhanusu ☐
10. Maharam ☐	11. Kumbam ☐	12. Meenam ☐
13. Not known ☐		

INVESTIGATIONS

BLOOD

172. TC : ☐☐☐☐☐ Cells / cumm

173. DC (%) : 1.P ☐☐ 2.L ☐☐ 3.E ☐☐

4.B ☐☐ 5.M ☐

174. Hb : ☐☐☐☐ gms %

175. E.S.R. : ☐☐ (mm / hr)

176. Blood Sugar F / PP / R : ☐☐☐ mgs %

177. Blood Urea : ☐☐☐ mgs %

178. Serum Cholesterol : ☐☐☐ mgs %

URINE

179. Albumin : 0.Nil ☐ 1.Trace ☐ 2. + ☐
3. ++ ☐ 4. +++ ☐

180. Sugar : 0. Nil ☐ 1.Trace ☐ 2. + ☐
3. ++ ☐ 4. +++ ☐ 5. ++++ ☐

DEPOSITS	**1. Absent**	**2. Present**
181. Pus cells	☐	☐ _____
182. Epithelial cells	☐	☐ _____
183. RBCs	☐	☐ _____
184. Crystals	☐	☐ _____
184. Casts	☐	☐ _____

185. SPECIFIC GRAVITY ☐

186. URINE CULTURE AND SENSITIVITY

MOTION TEST	1. Absent	2. Present
187. Ova	☐	☐ _____
188. Cyst	☐	☐ _____
189. Occult blood	☐	☐ _____

190.ULTRASONOGRAM