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CONTENTS

TITLE	PAGE NO.
ACKNOWLEDGEMENT	
INTRODUCTION	1
AIM AND OBJECTIVES	6
ABSTRACT	9
REVIEW OF LITERATURES	
SIDDHA ASPECT	10
MODERN ASPECT	81
MATERIALS AND METHODS	117
RESULTS AND OBSERVATIONS	121
DISCUSSION	140
SUMMARY	151
CONCLUSION	154
ANNEXURE	
PREPARATION OF THE TRIAL MEDICINES	I
PROPERTIES OF THE DRUGS	III
BIO-CHEMICAL ANALYSIS	VIII
PHARMACOLOGICAL ANALYSIS	X
ANTI MICROBIAL STUDY	XX
CASE SHEET PROFORMA	XXII
BIBLIOGRAPHY	

MALAR MICRO DIAGNOSTIC CENTRE

134/59-1, Tiruchendur Road, Palayamkottai - 627002

Phone - Lab : 2583954, Res : 2583955

Date : ..20/4/07.....

ANTIMICROBIAL STUDY OF KARPOORA MEZUKU

S.No	Bacterial Species	Result
1	Escherichia coli	Resistant
2.	Staphylococcus aureus	Sensitive
3.	Pseudomonas auroginosa	Sensitive
4.	Candida albicans	Sensitive
5.	Klebsiella sps.	Resistant
6.	Enterobacter sps.	Resistant



Dr. R. NAPOLEON B.Sc. M.D.,
CONSULTANT MICROBIOLOGIST,
TIRUNELVELI.

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample.

AIM AND OBJECTIVES

Yugi has done a lot of contribution to Siddha system. He has classified Vadha diseases into 80 types.

As "Sinusitis is the most common type of infection encountered in the human medical practice, the author has selected "Pitha thalai Nokkadu" for her dissertation study.

It affects both adults & Children of either sex. Further it is influenced by social, economical, sesonal and geographical factors. The spectrum of symptoms in this disease requires the use of several diagnostic and investigative procedures.

The prime aim of the study is to select the "Pitha thalai Nokkadu" patients and administer them the trial medicines and bring out the efficacy of the Medicine.

NAME OF THE MEDICINES:

Karpoora Mezhuku - Internal

Peenisa Naasa Ganapathy Thylum - 30ml

External (For bath)

In pitha thalai nokkadu, sneezing and severe head ache becomes the most irritating and horrible symptom of the patient's daily routine. The author tries to contribute a better remedy for this disease.

The aurther tries to denote the advances in diagnosis and treatment basis in Siddha system, in order to enlighten the ancient medicine with scientific approach.

This is only a preliminary endeavour by the author to help the sufferers of this disease.

The other aims are,

To study the clinical course of the disease “Pitha thalai Nokkadu” with deep observation on the

- ✎ Aetiology
- ✎ Classification
- ✎ Pathology
- ✎ Diagnosis
- ✎ Differential Diagnosis
- ✎ Prognosis
- ✎ Complications
- ✎ Treatment by Siddha aspects.
- ✎ To expose the efficacy of Siddhars diagnostic principles, to know how this disease deranges the normal Mukkutram, Poripulungal, Udarkattukal and Envagai Thervugal.
- ✎ The etiology and clinical features of “Pitha thalai Nokkadu” revealed in Siddha literature are compared with that of modern aspects.
- ✎ To have an idea about the incidence of disease with age, Sex, occupation, economic status, habits, family history and climatic conditions.
- ✎ To use laboratory and radiological parameters to confirm and follow the progress of the disease.

- ✎ To have a clinical trial on Pitha thalai Nokkadu with, Karpoora Mezuku
- as internal peenisa Naasa Ganapathy Thylum - as External

(For bath)

- ✎ To evaluate bio chemical and Pharmacological effects of the trial medicines.
- ✎ To evaluate microbiological study of the trial medicine.

ABSTRACT

Since PITHA THALAI NOKKADU is the most common disease in the society and the number of sufferers are increasing day by day, the author has chosen the disease for her dissertation work. It's increased incidence in recent times is due to sedentary life styles, Pollution and abnormal dietary habits.

20 patients of both sex as inpatients and another 20 as out patients were selected for clinical studies. They were administered with the trial medicines, Karpoora Mezuku - 500mg twice a day during the whole period and Peenisa Naasa Ganapathy thylum was given for bath (twice a weak)

The trial medicines were subjected to bio chemical pharmacological micro biological analysis.

At the end of the trial study the majority of the cases showed good results.

REVIEW OF LITERATURES

SIDDHA ASPECT

Definition about Vadha:

The biological function of the body is governed by three humours known as Vadha, Pitha and Kaba. In a healthy man these three humours are held in the ratio of 1 : ½ : ¼. When this equilibrium is altered it leads to disease. When vadha is altered by diet, environmental factors, habits etc., the other two are also altered leading to vadha disease.

Formation:

The basic energy which is responsible for a man to be alive is known as “Thathu”. This one energy is divided into three factors vadha, pitha and kaba. These are life force in three ways creates, protects and fates in the body.

The human body is compared of 72,000 nerves. Among this, ten are big nerves (Thasa Nadies)

“சிறந்த இடை பிங்கலைஞ் சுழிமுணையி னோடு

சிறப்பான காந்தாரி யத்திச் சிங் குவையாம்

பிறந்த அலம் புருடனோடு குகுதன் றானும்

பேரான சங்குனியும் வயிர வன்றான்

திறந்தவிவை பத்துந் தான தசநாடி யாகும்.”

- யுகி வைத்திய சிந்தாமணி

“Yugimani” describes the above ten nerves as “Thasa Naadies”.

“சாருந்தசநாடி தன்னில் மூலம் மூன்று

பேருமிடம் பிங்கலையும் பின்னலுடன் - மாறும்

உரைக்க விரற் - காற் றொட்டுணர்த்திடுமே நாசி

வரைச் சுழியோமையத்தில் வந்து

வந்தகலை முன்றில் வாயுவா மபானனுடன்

தந்த பிராணன் சமானனுக்குந் சந்தமறக்

கூட்டுறவு ரேசித்தல் உறும்வாதம் பித்தம்

நாட்டுங் கபமேயாம் நாடு.”

- கண்ணுசாமியம்

According to this, the three nerves edakalai, pinkalai and suzhumunai are basic nerves called as Mooladhara Naadies.

Among ten Vayus, five are more important. They are Piranan, Abanan, Viyanan, Udhanan and Samanan.

When the three nerves edakalai, Pinkalai and Suzhumunai are in conjugation with Abanan, Piranan, and Samanan respectively, the three humours Vadha, Pitha and Kaba are formed.

“தாதுமுறையே தனி இடை வாதமாம்

போதுறு பிங்கலை புகன்றது பித்தமாம்

மாது சுழிமுனை வழங்கிடும் ஐயமாம்

ஒதுமுறை பார்த்து உணர்ந்தவர் சித்தரே”

“உணர்ந்த அபானன் உறும் அந்த வாதத்தில்

புணர்ந்த பிராணன் புகும் அந்தப் பித்தத்தில்

அணைந்த சமானன் அடங்கும் கபத்தொடு

இணைந்திவை மூன்றுக்கு எடுத்த குறி ஒன்றே.”

- திருமூலர் கருக்கிடை வைத்தியம் - 600

Thirumoolar expresses the formation of Vadha, Pitha, Kaba in the same way by the above poem.

Location :

“ வாதத்தின் படைவீடு னாபிக்குங் கீழே”

- தேரையர் நாடி

Theraiyar says that Vadha lives below the umbilicus.

“ தெளிந்திட்ட வாதமபா னத்தைப் பற்றி

நிறைந்திடையைச் சேர்ந்துந்திக் கீழே நின்று

குனிந்திட்ட மூலமதூ யெழுத்து காமக்

கொடியிடையைப் பற்றி யெழுங் குணத்தைப் பாரே.”

- தமிழ் மருத்துவ சாதகம்

According to above Versa, Vadha lives in Abanan, Edakalai, Stools, Anus, Bones, Nerves, Hair follicles, Muscles etc.

“நாமென்ற வாதத்துக் கிருப்பிடவே கேளாய்

நாபிக்குக கீழென்று நவில லாகும்.”

- யுகி வைத்திய சிந்தாமணி

Yugimuni also denotes that vadha lives below the umbilicus.

“உண்டி சமைத்துடற் கூட்டுங் குடற்பகுதி
திண்டிற லென்பு செவிசுறங்கு - விண்ட
தொடுவுணர்வு தோற்றுவிக்கும் தோலிடுப்பில் வாழும்
வடுவி லிடமாம் வளிக்கு.”

- மருத்துவ தனிப் பாடல்கள்

Digestive system, bone, ear, thigh, hip, skin are the six sites where vadha lives, explains the above versa

“வேதமே யுரைத்த வாதத்தின் வீடு பாயு தொப்பிள்
ளோதிய பித்தத்தின் வீடுதாமே சிலேத்மனத்துக்
காதியா மிதயமே வீடாகுமி தென்று தானே
தீதில்லா முன்னோர் பேசும் வாகடச் செய்மை தானே.”

According to Thanvanthiri Nadi, the anal region is the site of Vadha,

Natural Qualities of Vadha:

“ஒழுங்குடன் தாதேழ் மூச்சோங்கி இயங்க
எழுச்சிபெற எப்பணியு மாற்ற - எழுந்திரிய
வேகம் புலன்களுக்கு மேவச் சுறுசுறுப்பு
வாகளிக்கும் மாந்தர்க்கு வாயு.”

- மருத்துவர் தனிப்பாடல்கள்

According to this, Vadha in its natural state is responsible for,

Alertness

Inspiration and Expiration

Mental and Physical activities

Execution of fourteen reflexes

Unique with seven Udakattukal

Strength of five sensory organs

Agonist qualities of Vadha:

Vadha has six agonist properties. Bad and unwanted things in our food and water strengthen Vadha's own qualities.

They are

- ✍ Rough
- ✍ Dry
- ✍ Light
- ✍ Cold
- ✍ Unstable
- ✍ Subtle

Antagonist :

These qualities eliminate the agonist qualities of vadha by giving the food supplements with the following properties.

They are

- ✘ Soft
- ✘ Unctuous
- ✘ Heavy
- ✘ Hot
- ✘ Stable
- ✘ Solid

Relation with tastes :

“சேத்தும மெழுந்திருக்கிற் தித்திப்பு நாவி லேறும்
ரத்திய கசப்பு மீறில் எழும்பிடும் பித்தமாகும்
மாத்திய புளிப்பு மீறில் வந்திடும் வாதமாகும்
சேத்துமந் தண்ணீர் பித்தந் தீ காற்று வாதமாமே.”

- அகத்தியர் நாடி

“வாதமே புளிப்பு வேண்டும் வன்பித்தங் கசப்பு வேண்டும்
தீதிலாசி லேற்பனந் தான் சேர்ந்திடும் இனிப்பு வேண்டும்
ஓதிய வாதபித்த சிலேற்பன தொந்த தோர்க்குக்
காதலாய் துவர்த்தல் காரல் உவர்ப்போடு கருதுங் காணே”

- இரத்தின சுருக்க நாடி

Sour taste indicates increased vadha by the above poem. “Astringent” taste is mixed with sour taste in diseased condition.

Aggravating Tastes:

“புளிதுவர் விஞ்சுக்கறி யார்பூரிக் கும் வாதம்

ஒளியுவர் கைப்பேறில் பித்துச்சீறும் கிளிமொழியே

கார்பினிப்பு விஞ்சிற் கபம் விஞ்சுந்

சேரப் புண்ணர் நோயணுகாதே.”

- கண்ணுசாமியம்

Above poem says that foods with sour and astringent taste will aggravate vadha.

Neutralising tastes:

“வாதம் மேலிட்டால் மதூரம்புளியுப்பு.

- கண்ணுசாமியம்

According to “Kannusamiyam” sweet, sour and salt tastes neutralise the increasing vadha.

Relation with Elements : (Pancha Pootham)

Vadham – Vali & Ahayam

Pitham - Neruppu

Kabam - Mann & Neer

Among five elements, vadha has the qualities of air and sky. This is explained as follows,

“சேத்துமந் தண்ணீர் பித்தந் தீ காற்று வாதமாமே.”

- அகத்தியர் நாடி

Relation with tastes and Elements :

Sweet	-	Earth + Water	Vadha	-	Air + Sky
Sour	-	Earth + Fire	Pitha	-	Fire
Salt	-	Water + Fire	Kabha	-	Water+Earth
Bitter	-	Air + Sky			
Pungent	-	Air + Fire			
Astringent	-	Earth + Air			

The element air present in bitter, pungent and astringent tastes aggravate Vadha

Alterations in Vadha:

Alterations in 3 – thathus and seven Udakattukal indicate how the body is being diseased

Types of Alterations:

1. Normal sign: (Thannilai)

It is defined as that the 3 humours are in the state of in its own normal character

Duration: Vadha is normal in koothirkalam (lyppasi + Karthigai)

2. Aggrevation Sign: (Thannilai Valarchi)

When the 3 humours are provoked in their own location it is called as aggravation sign.

Limitation : Hatefulness to things which cause aggravation and attraction to things having opposite qualities.

Duration : Vadha is aggravated in Mudhuvnil Kalam. (Aani + Adi)

Displacement of Aggrevation: (Vetrunilei Valarchi)

Provoked humours displaced from their own locations and aggravated in Vetrunilei Valarchi.

Limitation:

Determined by the signs and symptoms of 3 humours and features of body being ill.

Duration:

Vadha attains displacement of aggravation in Kaar Kalam. (Avani + Puratasi)

Factors which alter Vadha:

“வாயுவின் குணத்துடன் சூடணுகில்
வாயுவி னிடங்களில் நோய்களுண்டு
வாயுவில் குளிர்ச்சி தான் கூடிடலோ
வந்திடும் நலிகளும் வேறிடத்தே
வாயுவில் அனல்தரும் நெய்ப்பமைந்தால்
வாயுவும் அடங்கிடும் வாய்மையிது
வாயுவின் பிணிகளைப் போக்கிடவே
வகுத்திடும் முனிமொழி கண்டிடுமே.”

- மருத்துவத் தனிப்பாடல்கள்

Above text explains as follows,

- ⇒ When hot things are mixed with vadha, Vadha's locations get diseased.(Thannilai Valarchi)
- ⇒ When cold is mixed with vadha it gets provoked in its own and other locations. (Vetrunilai Valarchi)
- ⇒ When, hot, oily things are mixed with vadha, it gets neutralized. (Thannilai)

Functions of Vadha:-

According to Siddha Maruthuvanga Surukkam,

- ✗ Body Pain
- ✗ Numbness

- ✍ Tremors
- ✍ Dryness
- ✍ Emaciation
- ✍ Movements
- ✍ Rigidity
- ✍ Black discolouration of skin
- ✍ Paralysis
- ✍ Paresis
- ✍ Constipation
- ✍ Oliguria
- ✍ Excessive thirst
- ✍ Horriplivation
- ✍ Astringent taste in mouth
- ✍ Dislocation of joints

Signs of Hyper vadha :-

According to Thirumoolar Karukkidai Vaithiyam 600,

“புண்ணாய் வலிக்கும் பொருமுங் கடலோடி

தண்ணா மலத்தைத் தம்பிக்கும் போகாது

ஒண்ணான ஆசனம் உறவே சுருக்கிடும்

பண்ணார் குளிர்சீதம் பகுத்திடும் வாதமே.”

Vadha produces pain over intestine, constipation spasm of anal sphincter, chillness of body etc.

According to Thanvanthiri Vaitiyam :

“மேவிய வாதஞ் செய்யும் குணந்தனை விளமபிக் கேளாய்

தாவியே வயிறு மந்தஞ் சந்துகால் பொருத்து நோவாஞ்

சேவிய தாது நாசஞ் சேர்த்து நீர்க்கடுத்து வீழுங்

காவியங் கண்ணினாளே மலமது கருகி வீழும்.”

- தன்வந்திரி வைத்தியம்.

Flatulence, joint pain, spermaturia, Oliguria, Constipation are produced.

“வாதத்தின் குணமே தென்னில் வயிறது பொருமிக் கொள்ளும்

தாதுகளு லர்ந்த கைகால் சந்துகள் கடுப்புத் தோன்றும்

தீதுற்றுச் சிறுநீர் தானுஞ் சிறுத்துடன் கடுத்து வீழும்

போதுற்ற வாதமென்று புகன்றனர் முனிவர் தாமே.”

- தன்வந்திரி வைத்தியம்

Above versa says that vadha produces flatulence, pain over limbs, joints, burning urination, oliguria etc.

According to Agasthiyar Rathna Kirikidam :

“முர்க்கமுள்ள குணங்கேளு நடக்கும் போது

முழங்காலும் பிடரியெல்லாங் கடுப்புக் காணும்

பார்க்கையிலே மேகத்தைச் சுத்திவிட்டு

பாங்கான சீழொழுகி விதனமாகி

நாக்கெல்லாம் வரண்டு விழும் தாகமெடுத்த

வயிற்றொரிவும் காந்தலுண் டாம் வசை பாரே.”

- அகத்தியர் ரத்தின கிரிகிடம்

Agasthiyar denotes that vadha produces knee joint pain, occipital pain, pyuria, dryness of tongue, polydipsia, stomach ache etc.

According to Theraiyar Vahadam:

“தக்க வாயு கோபித்தால் சந்து வுளைந்து தலைநோவா
மிக்க மூரி கொட்டாவி விட்டங் கெரியு மலங்கட்டும்
ஓக்க நரம்பு தான் - முடங்கு முலர்ந்து வாய்நீ ரூறிவரும்
மிக்க குளிரும் நடுக்கமுமாம் மேனிகுன்றிவிடுங் காணே.”

- தேரையர் வாகடம்

Hypervadha produces joint pain, head ache, yawning, constipation, nerve paralysis, chillness over body, tremor, emaciation etc.

According to Kaviya Naddi :

“காணப்பா வாதமீறில் கால் கைகள் பொருத்து நோகும்
பூணப்பா குடல்புரட்டு மலஞ்சலம் பொருமிக் கட்டும்
காணப்பா குளிருங் காய்ச்சல் உடம்பெல்லாம் குத்தும் வாயு
வீணப்பா குதமிறுக்கும் வேர்வையும் வேர்க்குந் தானே.”

- காவிய நாடி

Hypervadha produces limbs and joint pain, abdominal pain, constipation, Urinary obstruction, fever with rigor, body pain, anal stricture, sweating etc.

According to Agasthiyar Naadi :

“சொல்லவே வாதமது மீறிற்றானால்
சோர்வடைந்து வாயுவினால் தேகமெங்கும்
மெல்ல கைகால் களிசதியுண்டாகும்
மெய்முடங்க நிமிர்வொண்ணாத் திமிருண்டாகும்.
வெல்லவேயுடல் பொருமும் வயிறுளைக்கும்
விரும்பியன்னஞ் செல்லாது விந்துநட்டம்
சொல்லவே நாப்புளிக்கும் கழிச்சலுண்டாகும்
கூறினார் மலையமுனி கூறினாரே.”

- அகத்தியர் நாடி

Agasthiyar says that hypervadha produces fatigue, malaise, paralysis of body, stomach pain, loss of appetite, spermaturia, diarrhoea, sour taste in the tongue etc.

According to Agasthiyar 2000 :

“வாதத்தின் குணமே தென்னில் மயங்கிந்தியங்கும் மலர் சிவக்கும்
பாதங் குளிர்ந்து சருவாங்கம் பற்றிநடக்கு முகங் கடுக்குஞ்
சீதத்துடனே வயிறு புண்ணாந் சிரிப்பித்ததுத் தெறிமுச்சாம்
போதத் தண்ணீர் தான் வாங்கும் புகழும் பஞ்ச குணமாமே.”

- அகத்தியர் 2000

Vadha produces fainting, chillness over soles, body pain, facial pain, stomach pain, polydipsia etc.

According to Jeeverakshamirtham :

Hypervadha produces emaciation, blackish discoloration of body, tremor, Malaise, Fatigue, flatulence, constipation loss of strength of five sensory organs, insomnia, depression, schizophrenia etc.

Signs of Hypovadha:

According to Siddha Maruthuvanga Surukkam,

Hypovadha produces,

Vague pain all over the body.

Low pitched voice

Difficulty in movements

Reduction in intelligence

Syncope

Symptoms of hyperkaba etc.

FATE OF VADHA:

“அறிந்திடும் வாதமடங்கு மலத்தினில்

பிரிந்திடும் பித்தம் பேராஞ்சலத்தினில்

மறிந்திடுமையம் வசிக்கும் விந்துவில்

உறைந்திடும் மூன்றுக் குறவாந்த லமிதே.”

- வைத்திய சாரசங்கிரகம்

Above versa denotes that the three humors are eliminated through following ways.

Vadha - Faeces

Pitha - Urine

Kaba - Semen

Different forms of Vadha :

In Siddha classical texts general principles of vadha are divided into ten subsidiary forms which differ from one another in their locations and physiological functions. This is quoted as follows,

“முறையாம் பிராணனோ டபானன் வியானன்
மூர்க்கமா முதானனோடு சமான னாகும்
திறமை யாங் கூர்மனோடு திரித ரன்றான்
தேவதத்த னோடு தனஞ் சயனுமாகும்.”

- யூகி வைத்திய சிந்தாமணி

Piranan

Abanan

Viyanan

Samanan

Udhanan

Nagan

Koorman

Kirukaran

Devathathan

Dhananjeyan

1. Piranan: (Heart Centre)

“பலவலவாம் பொசப்பெல்லாஞ்சீ ரணம் காக்கும்

முன்னநாழி கைக்குமுந்நாற் றறுபது சுவாசம்”

- யுகி வைத்திய சிந்தாமணி

Yugi explains that piranan regulates the respiratory system and digestive system.

2. Abanan: (Mooladar Centre)

“மருக்கவே கீழ்நோக்கிமல சலத்தைத் தள்ளும்

அருக்கவே யாசனத்தைச் சுருக்கி வைக்கும்

அன்னாச ரத்தையெல்லாஞ் சேர வைக்கும்.”

- யுகி வைத்திய சிந்தாமணி

Yugi denotes that abanan corresponds to the pelvic plexus and is the seat of kundalini energy. It controls executions such as sweating, stools evacuation, maturation, ejaculation of sperms, menstruation and parturition.

3. Udhanan : (Throat Centre)

“பூமனா மன்ன சாரந் தனைத்தான்

பொருந்தவே சமிபித்து நிறுத்தி வைக்கும்

காமனாயெ டுப்பித்துங் கலக்கி வைத்தும்

கலக்கியே வருந்தி வைக்கும் வளர்ப்ப மாகும்.”

- யுகி வைத்திய சிந்தாமணி

Above versa says that Udhanan corresponds to pharyngeal plexus in the throat and controls breathing and speech. It is also responsible for the reflex actions like vomiting, hiccough, cough etc.

4. Viyanan: (Forehead Centre)

This corresponds to the naso-ciliary plexus at the root of the nose and base of the skull and controls 'will'. According to Yugi, it helps in the circulation of energy through the entire nervous systems and helps in the movements of various parts of the body. It is quoted as follows,

“தறுப்பான சரவசரந் தனிலே நின்று

தானீட்டால் முடக்கல் பண்ணிப் பரிசங்க ளறியும்

அறப்பான வன்னசா ரந்தன் னைத்தான்

அங்கங்கே நிறைப்பித்தாக் கையை ரட்சிக்கும்.”

- யுகி வைத்திய சிந்தாமணி

5. Samanan: (Naval Centre)

It corresponds to the solar plexus in the naval region and controls digestion.

“வாமென்ற வாய்வுகளை மிஞ்சொட் டாமல்

மடக்கியே சமன்செய்து மருவப் பண்ணும்

தாமென்ற வறுசுவையைத் தண்ணீ ரன்னம்

சமன் செய்து சரீரமெல்லாம் சாரப் பண்ணும்.”

- யுகி வைத்திய சிந்தாமணி

Yugi says that by balancing other vayus, six tastes, water and food also being balanced by saman and get absorbed.

6. Nagan:

“தெய்வமா நாகனிடச் சிறப்பைக் கேளாய்
செயலான சகலகலை யாக்கி வைத்து
வைபமாய்ப் பாடிவைக்கும் கண்ணை விழிப்பிக்கும்
பாங்காகச் சிமிளிக்கும் ரோமம் சைவிக்கும்.”

- யுகி வைத்திய சிந்தாமணி

Nagan is responsible for intelligence of an individual. It helps one to learn all acts. It is responsible for blinking, opening of eyes and raising eye-brows.

7. Koorman:

“நிமைக் கொட்டுங் கொட்டாவி தானுங் கொள்ளும்
நேராக வாய்மூடும் பெலனுண் டாக்கும்
கமைக் கொட்டுங் கண்விழிக்கு மூடப் பண்ணும்
காட்சியெல்லாம் காண்பிக்கும் விழிநீ ரோடும்.”

- யுகி வைத்திய சிந்தாமணி

According to Yugi, Koorman is responsible for blinking, Yawning, closing of mouth and also gives strength. It also helps in closing and opening of eyes, shedding of tears and helps in vision.

8. Kirukaran:

“கமைக் கொட்டும் கிருதரா தியின்கு ணத்தான்
கடுநாவு நாசிதனிற் கசிவுண் டாமே
கசிவுண்டாங் கடும்பசியின் கன்மஞ் செல்லும்
கண்ணியேயி ருத்தலொடு போத லாகும்
துசிவுண்டாய் தும்மலோ டிரும லுண்டாகும்.”

- யுகி வைத்திய சிந்தாமணி

Yugi denotes that Kirukaran is responsible for salivation, nasal secretion and good appetite. It also produces cough and sneeze.

9. Devathathan:

It produces laziness and lassitude while walking. It is responsible for eyeball movements, anger, argument, quarrel etc. Yugi explains as follows,

“குடிவுண்டாம் தேவதத்தன் குணத்தைக் கேளாய்
குபுலமாய்ச் சோம்புமுறித் திதெலா மே
முறிந்திடுதல் மொழிக்கும்போ முயற்சி யாகி
முகுளிதமாய்க் கண்ணினையே யோடியு லாவித்துத்
தரித்திடுதல் சண்டைகொளற் றாக்கல் பேசல்
சண்டாளக் கோபத்தை யுண்டு பண்ணில்.”

- யுகி வைத்திய சிந்தாமணி

10. Dhananjayan:

It is responsible for the swelling all over the body. It produces tinnitus in the ears. It leaves the body by blowing up the cranium on the third day after death. It is quoted as,

“தறித்திடுதற் றனஞ்செயனைச் சாற்றக் கேளாய்
சாங்கமாய் முக்கினின்று தாக்குந் தானே
தடித்துமே உடம்பெல்லாம் வீங்கப் பண்ணும்
தந்திரமாய்க் கன்னத்திற் சமுத்திரம் போல”

- யூகி வைத்திய சிந்தாமணி

Characteristics of Vadha Thegi:

According to pathinenn Siddhar Naadi Sasthiram

“கண்டாயோ வாதத்தாலெ முந்த தேகம்
கட்டிமையாய்த் தடித்திருக்குங் கருமை செம்மை
வண்டாகுங் குழலாள் மேலற் பவாசை
வாய்வுமிகும் போக முறுமளஞ்சிக் கென்றல்
உண்டாலே அற்பவுண்டி எரிப்போ டுண்ணு
முறுதாது குறைச்ச லுடம்புகளை வசிதம்”

- பதினெண் சித்தர் நாடி சாஸ்திரம்

Vadha thegi has black or red complexion, rough and thickened skin, increased sexual desire, spermaturia, body pain, loss of appetite, flatulence etc.

According to Agasthiyar 2000 :

“உத்ததொரு காரியத்தை மெத்தெனவும் பேசலுள்ள
தெல்லாங் கருத்தாக வுரைப்ப தல்லால்
மெத்தவரும் பொய்யை மெய்யாய் வியந்துரைத்தல்
கனவினால் மெய் வருத்தல் காணல்
சத்துமனஞ் சலித்திருத்தல் தண் புனலை
விரும்பாதே தழலை வேண்டல்
மத்துமடல் தூலமாயி ருக்குமாகில்
வாத குண மிதுவெனவே வகுக்கலாமே.”

- அகத்தியர் 2000

Vadha thegi has obese structure and has a character of lazy activities, excellent speech, talking lie as like as true, extreme dreams, depression, preferring hot things etc.

According to Tanvanthri Naadi:

“வாத தேகந் தடித்திருக்கும் வாயு வளருங் குளிர்ந்திருக்கும்
போதஞ் சிறக்கும் பசிபொறுக்கும் புசிப்போ தெனினு மிகவருத்துந்
தாது சிறுக்குமுடல் கடுக்குஞ் சாருஞ் சஞ்சலமில் லையென்று
மோது மெரிப்பு ருசிவேண்டு முபாயஞ் செலுத்து மெனலாமே”

- தன்வந்திரி நாடி

Vadha thegi has an obese body with chillness and tolerates appetite, oligospermia, body pain, anxiety, eager to pungent taste etc, are the characteristics of vadha thegi.

According to Siddha Maruthuvanga Surukkam, Vadha thegi has an appearance of

- Thin tall built
- Large thighs
- Thickened eye lids.
- Round, small, white mixed eyes.
- Cool sight
- Black and white coloured skin complexion
- Black, splitting hairs
- Clear speech sometimes slurring, digressing speech etc.

Vadha thegi has the characteristics of,

- Preference of sweet, sour, salt and hot foods.
- Over eating
- Less strength
- Hatefulness of cold foods.
- Less sexual desire
- Oligospermia
- Unstable stamina, mood, intelligence
- Prefer games, music, exercise, laugh, massage, hunting etc
- Unqualification of everything
- Fighting with others
- Theft
- Loss of fame

- Short interrupted sleep
- Dreams like walking through sky, forest, mountains etc.
- Efficient in poetry etc.

Recognition of Vadha:

One best method of recognising Vadha humour in the human body is “Pulse reading”.

Criteria for Normal pulse:

When vadha,pitha and kaba are in the ratio of 1: ½ : ¼ in the body, it indicates that the man is physiologically normal in health. It is explained as follows.

“வழங்கிய வாதம் மாத்திரை யொன்றாகில்
 தழங்கிய பித்தம் தன்னிலரை வாசி
 அழங்குங் கபந் தானடங்கியே காலோடில்
 பிறங்கிய சீவர்க்குப் பிசாசொன்று மில்லையே”

- குணவாகட நாடி

Method of Pulse Reading :

According to Thirumoolar Naadi:

“குறியாய் வலக்கரங் குவிந்த பெருவிரல்
 வறியா யதன்கீழ் வைத்திடு மூவிரல்
 பிரிவாய் மேலேறிப் பெலத்தது வாதமாம்
 அறிவாய் நடுவிரல மர்ந்தது பித்தமே.”

“பித்தத்தின் கீழே புரண்ட தையமாம்
உற்றுற்றுப் பார்க்கவோர் நரம்பே யோடிடும்
பத்தித்த மூவரும் பாய்கின்ற வேகத்தால்
மத்தித்த நாளம்போல் வழங்கும் நரம்பிதே.”

- திருமூலர் நாடி

The above verse says that the physician holds the patient's hand in Semiprone position. Then relax the hand and palpate the pulse in radial aspect of forearm, one inch below the wrist with the physician's index, middle and ring fingers.

The pulses felt by the index finger, middle finger and ring finger are vadha, pitha and kaba respectively.

According to Agasthiyar Naadi:

“கரிமுகனடியை வாழ்த்திக்
கைதனில் நாடி பார்க்கில்
பெருவிரலங் குலத்தில்
பிடித்தடி நடுவே தொட்டால்
ஒருவிரலோடில் வாதம்
உயர் நடுவிரலிற் பித்தம்
திருவிரல் மூன்றிலோடில்
சிலேத்தும நாடி தானே.”

- அகத்தியர் நாடி

Location of Pulses:

According to Thirumoolar Naadi

There are ten important parts to read the pulse. They are 1) Ankle joint (dorsalis pedis, posterior tibial). 2) Kamiyam (Femoral Artery). 3) Abdomen (Epigastric Pulse). 4) Chest(apical impulse). 5) Ear. 6) Nose. 7) Neck(carotid). 8) Arm (Radial, brachial). 9) Eye brows. 10) Vertex etc. This is explained as follows.

“தாதுமுறைகேள் தனித் தகுதிச் சந்தோடு
ஓதுறு காமிய முந்தி நெடுமார்பு
காது நெடுமுக்குக் கண்டம் கரம்புருவம்
போதுறு முச்சி புகழ்பத்தும் பார்த்திடே”

- திருமூலர் நாடி

According to Brahmamuni:

Radial pulse is among the best site for pulse reading. This can be quoted as,

“பேர்ந்திடவே சகலருக்குங் கரந்தினாடி
பேசினார் பிரமமுனி பேசினாரே”

- சித்த மருத்துவ நோய்நாடல்

நோய் முதனாடல் திரட்டு - I

According to Kannusamiyam :

“அறியவுந்தி வாதமடு பித்தந் தானும்
அறிய நடுமார்பில் வளமை - குறிக்குமே
ஐயமுய ருச்சி யண்டு நிலையாங்குணரப்
பையக் கரம் பற்றிப் பார்.”

- கண்ணுசாமியம்

Kannusamiyam also denotes that the radial pulse is the best among others.
Because the radial artery is superficial than other vessels.

Selection of Hand :

The pulse should be noted on the right hand for males and left hand for females.

This is explained as follows,

“வாழான மன்னவனுக்கு வலதுகை நாடி

மங்கையருக்குக் கிடதுபக்கம் வகுக்க லாகும்.”

- யூகி வைத்திய சிந்தாமணி

According to Kannusamiyam :

“செப்பவாண் மக்களுக்குச் சேரவலக் கையாகும்

ஒப்பவரி வையர்க்கோத விடம் - தப்பாது”

- கண்ணுசாமியம்

According to Paripoorna Naadi :

“பார்க்கவே பெண்களுக்கி டதுபக்கம்

பதிவாகப் பார்த்திடவேப கரக் கேளு”

- பரிபூரண நாடி

According to Thanvanthiri Naadi :

“இயம்பிய புருடர்க்கு வலக்கை நாடி யெல்லை

வயங்கிளை மின்னினாருக் கிடக்கர மாணே கேளாய்.”

- தன்வந்திரி நாடி

According to Agasthiyar Ayurvedham 2000 :

“ஆடவர் வலக்கை நாடி வரிவையர்க் கிடக்கை நாடி”

- அகத்தியர் ஆயுர்வேதம் 2000.

According to Gunavahada Naadi :

“வலக்கை மைந்தர்க்கு

அரிவையர்க் கிடக்கை தன்னில்”

- குணவாகட நாடி

Pulse determination in either sex depends upon the position of the naadi koormam. It is upwards in females and downwards in males.

Character of Pulse:

According to Yugi Vathiya chinthamani

“தெளிந்திட்ட வரநாடிக் குணத் தான்

சிறுபிள்ளை தூக்குதொட்டி லாட்டம் போலும்

வளிந்திட்ட வளைந்து வளைந் தேந டக்கும்

மண்டுந் தத்துதல்போ லோணான் போலும்

தளிந்திட்ட சர்ப்பம்போ லட்டை போலும்

தவழ்ந்துமே மயிலினிற் குருவி போலும்

அளிந்திட்ட வாமையின் றனடையைப் போலும்

ஆதியா வாதமது நடக்குந் தானே”

- யுகி வைத்திய சிந்தாமணி

Vadha naadi resembles the cradle of a baby, movement of a frog, snake, tortoise, bird etc.

According to Siddha Maruthuva Noi-Nadal Noimudhalnadal I

“வாகினி லன்னங் கோழி மயிலென நடக்கும் வாதம்”

“ஆகிய வாதநாடி யன்னம் போற் குயிலைப் போலும்”

- சித்த மருத்துவ நோய் நாடல்
நோய் முதனாடல் திரட்டு - I

Vadha naadi resembles the walk of swan, hen, peacock, cuckoo etc.

According to Thirumoolar Karukkidai Vaithiyam-600

“இல்லையே வாதம் எழில்நடை கோழியாம்”

- திருமூலர் கருக்கிடை வைத்தியம் - 600

According to Agasthiyar Ayurvedham 1200

“அன்னமே கோழியோணான் மயிலென நடக்கும் வாதம்”

- அகத்தியர் ஆயுர்வேதம் 1200

According to Paripoorna Naadi :

For males, vadha naadi resembles like a walk of swan, hen, peacock, cuckoo etc, and for females resembles like a crawling snake. It is quoted as,

“காணவே புருடர்க்கு வாதநாடி
கானகத்து மயில்போலும் அன்னம் போலுந்
தேணவே கோழிநடைந டக்குஞ் சொன்னேன்”

“பார்க்கவே பெண்களுக்கி டதுபக்கம்
பதிவாகப் பார்த்திடவேப கரக் கேளு
கார்க்கவே வாதமது சர்ப்பம் போலாங்”

- பரிபூரண நாடி

According to Thanvanthiri Naadi :

“கொந்துறு குயிலே யன்னங் ருக்குட மயிலே போல
வுந்திய நாடி கண்டால் வாதமென் றுரைக்கலாமே”

- தன்வந்திரி நாடி

Vadha naadi resembles the walk of swan, hen and peacock.

According to Agasthiyar Mani 4000

“வேட்டந் தவளை வெளிச்சனா கங்குழந்தை
ஆட்டிய தொட்டில் அட்டையாம்” (9)

- அகத்தியர் மணி 4000

Above verse explains that vadha naadi feels like the movement of a frog, snake, leech and a cradle of a baby.

Influence of Vadha in a day, week and month

According to Yugi Vaithiya Chinthamani

“தெளிந்திட்ட காலைநாழி கைதான் பத்தும்
திறமையாய் வாதத்தின் சுரப் பதாகும்
----- கங்குற் போது
வழுந்திட்டவாதத்தி னாடி யாகும்.”

- யுகி வைத்திய சிந்தாமணி

Vadha is specialized in a day from 6AM to 10AM and 6PM to 10PM

According to Vaithiya Sarasangiraham :

“காலையில் வாதநாடி கடிக்கையில் பத்தாகும்.”

- வயித்திய சாரசங்கிரகம்

According to Siddha Maruthuva Noinadal Noimudalnadal I

“தினகரனுத யஞ் சேரும் வாதம்
பித்தரவின் முதல் பேசும் வாதம்
இப்படி நாடி பப்பத்தாங்கடி
கைப்படி செல்லுமென் றறிவீர் பிடகரே”

- சித்த மருத்துவ நோய்நாடல் நோய் முதல் நாடல் - I

According to Thirumoolar :

“வெள்ளிவெண் திங்கள் விளங்கும் புதனிடம்
ஒன்னிய மந்தன் இரவிசெவ் வாய்வலம்
வளரும் பொன்னே வளரும் பிறையிடந்
தெள்ளிய தேய்பிறை தான்வல மாமே.”

- திருமந்திரம்

Thirumoolar explains that vadha is specialized in edakalai, ie; Monday, Wednesday, and Friday. Vadha is also specialized in Thursday during growing moon day. The following also explains this as,

“சந்திரநாட் காலையில் வாதம்
நடந்திடில் சுகமெய்தும்”

“சந்திரநாளாஞ் சசிபுகற் புந்தி
சுக்கில பக்கச் சுரற்குரு காலையில்
இறைவனியங்கில் எய்துந் சுகமே”

- சித்த மருத்துவ நோய் நாடல்

According to Siddha Maruthuva Noinadal Noi Mudhalnadal I

Vadha gets specialized during four months from Aadi to Iyppasi. This is explained as follows,

“ஆடியாதி யாய் ஐப்பசி ஈராய்
அனில மதற்கோ ரரசியல் காலம்”

- சித்த மருத்துவ நோய் நாடல் நோய்முதல் நாடல் - I

Recognition of Vadha in other ways:

“தெளிந்தவர் கைக்குள் நாடிச் செய்ய வெள்ளரிக் காய்தின்ன
குளிர்ந்திடில் வாதமாகுங் குலவியரை யோடென்ன
விளங்கிய மேனிதாறு மெச்சல் நீர் பித்தமாகும்
வளம் பெறத் துவரை யொன்று வழுத்திடச் சேதமென்ன”
- அகத்தியர் ஆயுர்வேதம் 1200

Above text says that vadha is recognized when a patient is asked to eat cucumber, his body becomes chill. That time, the pulse reading should be vadha naadi.

Characteristics of Vadha diseases :

“மெய்யே நடுக்குந் தலை வலிக்கு
மேனிவெளுறுங் கண்டுங்கும்
பொய்யே துயரங் கிறுகிறுக்கும்
போதே நயனமெய் நெறியுங்
கை கால் நிமிர்ந்து வுலர்த்தி வைத்துக்
கண்ணு மூக்குஞ் சன்னி கட்டு
கை யாமெய்யு மிக வுளவாம்
வாத ரோகக் குணமிதுவே”

- பதினென் சித்தர் நாடி சாஸ்திரம்

According to above verse, vadha diseases have the features of tremors, headache, anemia, sleep, giddiness, pain and numbness over limbs, dryness of the body etc.

Classification of Vadha diseases :

1. According to Yugi Vaithiya Chinthamani

“என்னவே வாதமது எண்பதாகும்

ஏற்றமாம் பேருடைய வெழிலைக் கேளாய்”

- யுகி வைத்திய சிந்தாமணி

“தாக்கான வாதந்தா னெண்பதாகும்”

- யுகி வைத்திய சிந்தாமணி

Vadha diseases are classified into 80 types.

“ஆமப்பா வாதமதெண் பத்து நாலும்”

- யுகி வைத்திய சிந்தாமணி

But Yugi describes vadha diseases into 84 in number while concluding the section of vadha diseases.

2. According to Agasthiar 2000

“எண்பது வாதமாகு மிருவகைப் பகுத்துக் காணில்”

- அகத்தியர் 2000

Vadha diseases are classified into 80 in number.

3. According to pararasasakaram – Vadha roganithanam

“எண்பது வாதந் தன்னை யியல்புடன் பிரித்துக் காணில்
நண்பனே யரைக்கு மேலே நாற்பது வாதமாகும்.
பண்புசே ரரைக்குக் கீழே பதிற்று நான் காகும் வாதம்
வண்டுசேர் குழயி னாளே வாகடத் தியல்பு தானே.”

- பரராசசேகரம் - எட்டாவது வாதரோக நிதானம்

Vadaha diseases are classified into 80 types according to the region of distribution.

4. According to Agasthiyar Ayurvedam 1200.

“வாதந் தானெ ண்பதுவும் வன்பித்த நாற்பதுவந் ”

- அகத்தியர் ஆயுர்வேதம் 1200.

Vadha diseases are classified into 80 types

5. According to Theraiyar Naadi :

“வாதமெண் பத்தினாலு வந்திடும் வகைகள் ஆய்ந்து”

- தேரையர் நாடி

Vadha diseases are classified into 84 types.

6. According to Agasthiyar Ratina Kirikidam

“பாரப்பா வாதமிது எண்பத்தி நாலு”

- அகத்தியர் இரத்தினகிரிகிடம்

Vadha diseases are classified into 84 types.

7. According to Sekarasasekara Vaithiyam

“சீரணி வாத மெண்பத் தைந்தின் சிறப்பும் வேதம்”

- செகராசசேகர வைத்தியம்.

Vadha diseases are classified into 85 types.

8. According to Rathina Surukka Naadi

“பாரப்பா வாதமது எண்பத்து நாலு”

- இரத்தின சுருக்க நாடி

Vadha diseases are 84 types.

9. According to following tests

Asthanga Sangiraham

Noi Nadal Noi Mudhanadal – II

Jeeva Rakshamirtham

Thanvanthiri Vaithiyam

Roha Nirnaya Saram.

Describes vadha diseases into 80 types.

10. Texts

Written by Krishnar, Bharathrajor, Boja, Athireyar also classify vadha diseases into 80 types.

11. Texts

Such as – Anubhava Vaithiya Deva Rahasiyam, Chinthamani are classified vadha diseases into 84 types.

PITHA THALAI NOKKADU

Pitha thalai nokkadu is one of the Vadha diseases described in Yugi Vaithiya Chinthamani.

DEFINITION:

It is a type of vadha disorder mostly affecting nasal mucous membrane and Para nasal sinuses which produces severe pain in frontal and maxillary region, sneezing and otalgia

SYNONYMS:

1. Neerkovai
2. Mookku noi
3. Mookku neer Paichal
4. Mookkadaippu
5. Peenisam

neha;ehly; neha; Kjy; ehly;

ghfk;-II.

AETIOLOGY:

1. According To Yugi Vaithiya Chinthamani,

“vd;dnt thjk;jh bdz;gjhFk;
,fj;jpnj kdpjh;fSf; bfa;a[khW
gpd;dnt bghd;jida nrhue; bra;J
bghpnahh;fs; gpuhkziu Jht[zpj;Jk;
td;dnj tw;brhj;jpr; nrhue; bra;J
khjhgppjh FUIit kwe;j ngh;f;Fk;
fd;dnt ntjj;ij epe;ij bra;jhy;
fhajjpw; fye;jpLnk thje; jhnd

-a{fp itj;jpa rpe;jhkzp.

In Yugi Vaithiya Chinthamani as there is no specific etiology for pitha thalai nokkadu, causes for all types of Vadha diseases are suitable to this disease and are described. People who have behaviours like theft, disrespect to elders, ignorance of vedhas, will be affected by Vadha diseases.

“jhbdd;w frg;ngHL Jth;g;g[iw;g;g[
rhjfkha; be";RfpDe; rik;j td;dk;
Mbdd;w thwpdJ bghrpj;j thYk;
Mfhaj; njwyJ Foj;j thYk;
ghndd;w gfYf;f kpuhtp Hpg;g[
gl;odpna kpft[Wjy; ghu bka;jy;
njbdd;w bkhHpahh;nkw; rpe;ij ahjy;
rPf;fpukha; thjkJ brdpf;Fj; jhnd

- a{fp itj;jpa rpe;jhkzp

Intake of food with bitter, astringent, pungent tastes, drinks, day sleep, insomnia, starvation, sexual desire etc., will readily cause Vadha diseases.

2. According to Sabapathy's Kaiyedu,

“tspjU fha;fpH';F tiutpyh japyy; nfhiH
Kdpjaph; nghd;kpFf;F Kiwapyh t[z;o nfhly;
Fsph;jU tspapd;nwf'; Fdpg;g[w tpyty; bgz;oh;
fspjU Kaf;fk; bgw;nwhh; fobray; fUtpahkhy;”

-rghgjp ifnaL

Diet which provoke Vadha curd, inappropriate diet, cold exposure, increased sexual desire cause Vadha diseases.

3. Deeds as a Cause:

jd;tpid g[wtpid jhHpDk; kpfpDk;
cliyg; gpzpf;F Kz;ikapJ jhnk
g{h;t brd;k f;Ujk;ghTk; tpahjp+ngd gPojk;”
rpj;j kUj;Jt neha; ehly; neha; Kjdhly;

One man is said to be diseased in relation with his deeds, which means the bad activities done in his previous and present births.

“ngU kpsik apd;gk; gpzp \g;g[
rhf;fhL MW'; fUtpaikg;g[”
-rpj;j kUj;Jt neha; ehly; neha; Kjdhly;-I

So the genetic imprints are probably the results of deeds of the individual and result in genetic and hereditary diseases. According to Agasthiyar Kanma Kandam 300

“E}byd;w thjk; te;j tifjhndJ
Jdikaha; fd;kj;jpd; tifiat; nfS
fhypny njhd;wpaJ fLg;g njJ
if fhypy; Klf;fpaJ tPf;fnkJ
nfhypny gLf;fpd;w tpUl;rkhd
FHe;ij kue;jid btl;ly;nky; njhy;rPty;
ehtpny rPtbre;J fhy; Kwpj;jy;
ey;y bfhk;g[jiH Kwpj;jy; eypj;jy;fhnz” (56)
-mfj;jpah; fd;k fhz;lk; - 300

Vadha diseases are precipitated by deeds such as cutting or denuding of green young living trees, breaking the legs of living beings etc.,

4. According to Pararasa Sekaram - Vadha roga nithanam:

“bjhHpy; bgW ifg;g[f;fhh;j; jy;Jth;j;jy; tp";RfpD"; nrhWk;
giHa jhk; tuF kw;iwg; ige;jpid aUe;jp dhYk;
vHpy; bgwg; gfY w';fp ,utpdp Yw';fh jhYk;
kiHePfh; FHyp dhns thj';nfh gpf;F'; fhnd”
“fhznt kpft[z; lhY'; fUJgl; odptpl; lhYk;
khdid ahh;fz; nkhh kwf;fpD kpFe;jpl; lhYk;
Mzt ky';f lk;ik a';'nd tplhj jhYk;
thDjd; kley; yhns thj';nfh gpf;F'; fhnz”

-guuhr

nrfuk;.

Vadha diseases are caused by intake of bitter, astringent, pungent taste foods, previous day rice, ragi, daytime sleep, insomnia, over eating, starvation, excessive sexual desire, anger, anxiety etc.,

“ghhpdpw; gag;gl; lhYk; gyUld; nfhgpi; jhYk;
fhhbdf; fUfp nahof; fGkuj; Juj;jp dhYk;
Vh;bgW jdJ be";rpd; kpfj;Jf;f kile;jpl; lhYk;
ghhpa fhw;wp dhSk; glhpDk; thj'; fhqk;”

-guuhr

nrfuk;.

Fear, anger, depression, excess, physical activities, weather change, abnormal diet, excessive water intake, relax in evening and excessive intake of old ghee, cause Vadha diseases.

5. According to Mannurukkiyam:

“Fsph;r;rpak; beha;k;ika[k; Kilad t[z;zy;
 g[zh;r;rp kpF;jy; cwf;fk; ePf;fy;
 khRk; ePU; MR gLjy;
 jh';fh Kaw;rpfs; jifawr; bra;jy;
 FUjp Fiwjy; epidt[kpFjy;
 Jah; rpdk; Kjypa kpFg;gly;
 toa Kjy bkype;J nghjy;
 fLk; gpzpa[Wjy; mfl bkypjy;
 cs;SWg;gpw; rpy eP';fy; tPH;jy;
 fUtapw; g[z;gly; cly; EW';fpLjy;
 caph;epiy jhf;fy; cz;zh jpUj;jy;
 clk;gpy; ghy;fs; kpff; Fiwe;jpLjy;
 czh;r;rp epiyfs; cwj; jhf;fpLjy;
 vd;g[rpijy; e";R kUe;Jzy;
 vd;gt[k; gpwt[k; tspa neha;fl;
 fog;gilahf mwpjy; eynk”

- khd; KUf;fpak;.

Intake of cold, oily foods, excessive sexual inter course, loss of sleep, unhygienic water, Excess work, blood loss, anger, depression, loss of weight, prolonged illness, disease of internal organs, ulcer cervix, Trauma to genitalia, starvation, deficiency of hormones, trauma to nerve plexus, bone degeneration, toxic medicines, etc., cause Vadha diseases.

6.According to Jeeva Rakshamirtham:

Vadha diseases are caused by intake of bitter, astringent, pungent taste foods, hot foods, intake of diet in untime, loss of sleep, excessive exercise, loud speech, excessive vomiting, loose stools, fear, depression, over thinking, increased sexual desire etc.,

7. According to Theraiyar Vahadam:

“btapypy; elif ahYk; kpfj;jz;zPh; Fof;if ahYk;
bta;apiH kfsp dhisr; nrh;ejD gtpf;if ahYk;
igant cz;if ahYk; ghfw;fha; jpd;if ahYk;
ijany thjnuhfe; rdpf;F bkd; wwpe;J bfhs;ns”(16)
...njiuah; thflk;.

Walking during noon, excess intake of water, increased sexual intercourse, late time intake of food, eating bitter gourd etc., cause Vadha diseases.

8. According to T.V.Sambasivam Pillai Dictionary.

Due to various food and misbehaviour, the alteration in five forms of Vadha (ie Vayu) produces Vadha diseases.

9. Exaggeration of Vadha humour as a cause According to Thirukkural:

“kpFD'; FiwapDk; neha;bra;a[k; E}nyhh;
tsp Kjyh btz;zpa \d;W”
....jpUf;Fws;.

The three humours which increase (or) decrease causes diseases Vadha diseases are produced by hypervadha, due to any of the above etiology.

According to Kannusamiyam:

“kw;W ey;thjK khwhj gpj;jfgk;

Kw;Wkit Kuzh bkha;k;g[lnd - cw;wpUf;fpy;
ePjpaha; nehapy;iy epd;wptit khwplnt
ngjpf;Fk; eho bad;W ngR”

.....fz;qrhkpak;.

The alteration in three humours produce diseases.
According to Theraiyar Naadi,

“cgj;jpu bkhd;Wkpy;iy clypiy tpahjpapy;iy
etkjha; thjpk";rpy; elf;fpLk; tpahjpa[z;L”

.....njiuah; eho.

Exaggerated Vadha humour causes Vadha diseases.

10.Daniel of 14 urges:

Reflexes are essential for the normal functions of the body if there is any disturbance or suppression, it leads to pathological State.

Thummal: Sneezing.

If this reflex is suppressed the following clinical features would occur

“Jk;kiy jiljhd; bra;jhy;
bjhFj;jpLk; jiyneh a[z;lhk;
,k;ikape; jphpa bky;yhk;
,ay;g[lld; bjhpj;jyhFk;
brk;ikapy; Kfk; typj;jy;
jPunt aiuth j';fs;
btk;ikahk; tha[bfhz;lhy;
tpise;jpLk; Fz';fshnk”

Head ache, Pain over the sensory and motor organs, facial palsy, hip pain
etc.,

Nithirai: Sleeping.

If the nithirai is suppressed by any cause it will lead to the following signs and symptoms.

“epj;jpiu al';fpg; nghf
epfH;e;jpL fUk'; nfsha;
epj;jKe; jiyf; fdg;g[
epd;wfz; nzhj yhfpr;
rpj;jj;jpw; brtpLz; lhfpj;
bjspthW ngr;R Kz;lhk;
cw;wnjh Ywf;fj; jd;dp
Yz;lhnkhh; tha;tpd; Tnj”

Heaviness of head, red eye, deafness, blabbering and Vadha related diseases.

Vizhineer - Tears

If we control the tears it will produce some signs and symptoms as follows.

“tpHpadpy; ePu lf;fpy;
tpjkhd ,Uj;J nuhfk;
tHpgL gPep r';fs;
te;jpL nej;u nuhfk;
mGfpLk; rpurpy; nuhfk;
mjDld; thj'; Toy;
gGJly; gz;zpf; Fd;kk;
gw;wpL'; FzK Kz;nl”

Cardiac diseases, Sinusitis, eye disease, necrotic ulcers over the scalp and peptic ulcer.

11. According to Noi Nadal Noi Mudhalnadal Part - II,

- a) kpf Fsph;e;j ePiug; gUFjy;.
- b) gdp my;yJ Fsph;e;j fhw;wpyPLgly;.

- c) g[if my;yJ g[Gjp goe;Js;s fhw;iwr; Rthrpj;jy;/vjph; fhw;wpy; bry;yy;.
- d) Jk;iya[z;L gz;qk; bghUs;fis Kfh;jy;.
- e) cly; btg;gkile;jpUf;Fk; nghJ laj;ijg; bgUf;ff; Toa Fsphe;j ePhpy; jiy KGfy;.
- f) Fsph;r;rpahd bghUI;fis cl;bfhs;sy;.
- g) jd; njrky;yhJ/ ntW ehLfSf;Fr; brd;W m';F rpyrkak; mRj;jkhd ePiu cgnahfpg;jjhYk;/
- h) fz;zPh; tojy;/ the;jp Mfpatw;iw jLg;jjpdhYk;.
- i) mjpfk; cuj;Jg; ngRtjhYk;.
- j) mst[f;F kpFe;jhtJ Fiwj;jhtJ epj;jpiu bfhs;syhYk;.
- k) md;wpa[k; neha;f;F Jiz aha; ,e;neha; cz;lhf;Fk;.
- l) nahf epiyapYs;s nghJ fPH; tha;f;fdy; kpFjpahfp jiy \is tiuapw; brd;W m';F btg;gj;ija[z;lhf;fp \f;filg;g[neha cz;lhf;Fk;.

Reading lines between Yugi's Poem:

“tz;ikaha; epw;fpd;w \f;F jhDk;
 toe;Jnk ePh;g;gha;e;J jiy fdj;J”
 btz;ikaha; tha;ePh;j;jhd; kpft[\wp
 kPwpna cz;zhf;ifg; gw;wp behe;J
 jpz;ikaha; brtpjdpny Fw;wYz;lha;
 rpuRjhd; ghukha kpff; fdf;Fk;;
 fz;ikaha; fz;nzhL g[Utk; Fw;Wk;
 fdkhd gpj;jj;jpd; wiy neh;fhnl”
a{fp itj;jpa rpe;jhkzp.

According to Yugi's Poem, the clinical features of Pitha thalai Nokkadu are,

- 1) Rhinitis
- 2) Heaviness of the head
- 3) Excessive salivation

- 4) Throat Pain
- 5) Pharyngitis
- 6) Otagia
- 7) Pain in Para nasal Sinuses
- 8) Pain in eyes and eye brows.

Mukkuutra Verupadugal pathology:

Excessive intake of Vadha promoting diet and habit which induces the pitha kutram. This type of pitham produces more heat goes to head resulting in running nose, pain in frontal and maxillary region, pain in eyes and eyebrows sneezing and sore throat.

So the changes of diet and habit which increases Vadha (or) Kaba produces the clinical symptoms of Pitha thalai Nokkadu.

DIAGNOSIS:

To deal one disease and confirm what is what, diaganosis is made out. It is very helpful to take over. Correct line of treatment and assess the progress of the disease. In Siddha medicine, the diagnosis is based upon, the following methods.

- Poriyal aridhal (Inspection)
- Pulanal aridhal (Palpation).
- Vinadhah (Interrogation).
- Envagai thervugal.

This also comprises some other parameters to confirm the diagnosis. They are,

- Thinai (Land and Place)
- Kaalam (Seasons)
- Udal Vannai (Body Strength)
- Mukkuutrangal (Three life principles).
- Udal Kattukal (Seven body structures)

PORIYAL ARIDHAL:

Examination of patient five organs of perception by physician's sensory organs. They are ,

Mei	-	Skin
Vai	-	Tongue
Kan	-	Eys
Mooku	-	Nose
Sevi	-	Ear

In Pitha thalai nokkadu, Mei is not affected. The affected other Gnanthiriyam produces, Reddish and lacrimation from kan Running nose from mokku and otalgia in sevi.

PULANAL ARIDHAL:

Examination of a patient's five sensations by a physician. They are,

Ooru	-	Touch
Osai	-	Sound
Suvai	-	Taste
Oli	-	Vision
Natram	-	Smell

In Pitha thalai Nokkadu, ooru is not affected. But there is diminished sensation of sound, taste and smell.

KANMENTHIARIYANGAL: (MOTOR ORGENS)]

Examination of a patient's motor organs. They are

Kai	-	Upper limbs
Kal	-	Lower limbs
Vai	-	Mouth

Eruvai- Rectum

Karuvai- Uterus

IN PTN Vai is affected and produces low pitched voice.

VINADHAL:

The physician interrogates the patient's name, Age, Occupational, history, residence, family history, socio-economic status, habits, complaints of the illness, past history of illness, treatment history etc.,

THINAI (LAND AND PLACE):

Geographically, land is divided into five regions. They are,

- Kurunji - Mountain and its surroundings
- Mullai - Forest and its adjacent area.
- Marutham - Fertile fields and its surroundings.
- Neithal - Sea and its surroundings.
- Palai - Desert and its surroundings.

Each region has its own characters, which influence the physical, mental, economic, occupational and cultural activities.

"Fwp";rp epynk thjkjh'; TWk; ghyi gpj;jkh";
brwpe;j kUj"; rpnjykkjh"; rpnj;k thj Ky;iyajhk;
epiwe;j bea;jy; thjgpj;jk; epy';f sjid kaf;fhap
Yiwe;j tpahjp fye;jpUf;F Kgha kwpe;J bra;tPnu"

.....jd;te;jphp eho.

Above verse says that Vadha provokes in Kurunji, Mullai and Neithal regions are causes Vadha diseases.

“Ky;iy epyj;jank \hpepiu nktpDkt;
bty;iy epiyj;jgpj;j bk';FW';ffhz; - ty;iybadpd;
thjbkhHp ahjjhtz; kd;W kittHpneha;g;
ngj bkhHp ahjiwag; gpd;g[”

.....gjhh;j;j Fz rpe;jhkzp

Above verse says Mullai region is a land for Vadha disease.

bea;jdpy nkYg;ig eP';fh JwpDkJ
bta;jdpy nkj';F tPIhFk; - bea;jy;
kU';Fliy kpff;fhf;Fk; ty;YWg;ig tPUf;Fk;
fU';Fliyf; fPHpwf;F'; fhz;

- gjhh;j;j Fzrpe;jhkzp

Above poem explains that Vadha disease are occurred in neithal region.

According to Parthartha Gunachinthamani:

ghiyepyk; nghw; gliu gpwg;gpf;f
nkiyepy kpahJ tphpj;jw;F - ntiyepy
Kg;gpzpf;F kpy;yk; Kiwna atw;wfyhk;
vg;gpzpf;F kpy;yk; bjd;.

Above verse says that Palai region is a place for Vadha, Pitha and Kaba.

ACCORDING TO THEARAN KARISAL:

“cyk; kPdp kd;cth ke;jphp
cjshhplk; cwnt ck;guhdpk; brhd\th;
c';Fyh bthz;zhjnj cikaplkh kij
c"; brhzhJ.”

.....njud; fhpry;.

Theraiyar explains that Neithal and palai regions are the places for Vadha diseases.

So, Pitha thalai Nokkadu occurs in Kurunji, Mullai and palai regions. Palai indicates the altered other four regions also.

KALAM: {SEASONS}

According to Tamil civilization, the year is divided into six seasons, each comprises two months.

“kUtpa fhnu Tjph; Kd;gdpw; gdpf nshL
tputpa ,isa ntdpy; tpiue;jpL Kjph;e;j ntdpy;
kUt[kh tzpna ahjp kw;wpuz; ouz;L khjk;”

.....Nihkzp epfz;L.

Above text quote that the six seasons are,

Karkaalam	-	Avani, Puratasi
Koothir Kaalam	-	Iypasi, Karthigai
Munpani Kaalam	-	Marhazhi and Thai
Pinpani Kaalam	-	Masi and Panguni
Elavenil Kaalam	-	Chithirai and Vaihasi
Mudhuvenil Kaalam	-	Aani and Aadi.

According to Thanvanthiri Naadi.

“khh;fHpKjy; ehd;F khjKk; thjkhFk;
nghkhp Kjy; ehd;F khjKk; gpj;jkhFk;
nrudpKjy; ehd;F khjKk; rpnyj;kkhFk;
ghhkpri awpe;J bra;a Ma[s;E}y; XJthnu”

.....jd;t;ejphp eho.

Thanvanthiri Naadi quotes that Vadha diseases occur in Marhazhi, thai, Masi and Panguni

According to Yugi Vaithiya Chinthamani,

“thjth;j; jidfhy nknjh btd;dpy;
 kUt{fpd;w thdpfh; flf khFk;
 Mjiyg; grpnaHL fhh;j;jp jd;dpy;
 mlUnk kw;wkh j';fs; jd;dpy;
 nghjnt rkpF;Ffpd;w fhy khFk; ”
a{fp itj;jpa rpe;jhkzp.

Yugi says that vadha diseases occur in Iypasi and Karthigai due to chill weather.

Madhuvenil Kaalam:

“gJkj;ijg; g{f;fitf;Fk; ghDkpf; fha[k;
 KJntdp ypw;g[tpePh; Kw;Wk; - fJbkd
 tw;Wk; fgk@Fk; tha[kpFk; thH; khe;jh;f;
 Fw;weypf; nfjpbjd; nwhJ”
kUj;Jt jdpG;ghly;fs;.

Above poem explains that Vadha diseases occur in Mudhuvenil Seasons (ie. Aani and Aadi)

Karkaalam:

“btspr;NH; j;l;gj;ij tp”;RkI; NI;il
 mspj;Jhpf;F neh;bra[khy; ahf;iff; - fspbrhp
 td;dpa@Fk; fhuzj;jhy; thjhjp Kj;njhlk;
 ed;dpiyapy; epy;yh etpy;.”
kUj;Jt jdpG;ghly;fs;.

This poem states that Vadha diseases occur in Kaarkaalam., due to chill air penetrating the body.

Mudhuvenil and Kaarkaalam alter the climatic conditions and change the land, water,plants, animals and human beings which modify the physiology and pitha thalai Nokkadu.

UDAL VANMAI: [Body Strength].

The Stamina, Strength, Vitality of the body is classified into three types.

Eyarkai Vanmai

Kaala Vanmai

Seyarkai Vanmai.

1.EYARKAI VANMAI:

It occurs naturally due to three characters named as sathuva, rajo and thamo which is implant in a man by birth. It refers to inherited immunity by birth.

2. KAALA VANMAI:

It refers to the body's Vigor present in different ages.

3. SEYARKAI VANMAI:

The body's vigor formed naturally by the three characters Sathuva, rajo and thamo is maintained by the diet, Physical activities, Medicines and Yoga practices. It refers to the stability of the body's strength induced by above things.

In diseased condition, the natural body strength gets affected, there by, seyarkai vanmai is induced by Medicines, diet and yoga practice.

MUKKUTRANGAL:

According to Yugi Vaithiya Chinthamani.

“eof;fpd;w thjgpj;j nrl;g \d;W
eykh tpjpd;gphpd g[l;lf; nfsha;
tof;fpd;w thjkJ tha[epiy fy';fp
kj;jpakh kf;fpdpa[khh;f;f khnk
khf;fkhk; gpj;je;jh df;fp dpia
krf;fp itj;J kha;ifa[l;d; tUe;jp itf;Fk;
J}f;fe;jhd; nrl;gkJ rykpF ahf;fpj;
Jthu';f nghWkpil tplhkdpw;Fk;.”

.....a{fp itj;jpa rpe;jhkzp.

Vadha, Pitha and Kaba are the three life principles. They have multiple significance in a body.

VADHA:

Vadha represents Vayu, mind, dryness, pain, flatulence, sensitiveness, lightness and also air. Vadha is classified into ten forms. Vadha comprises the function of motor and sensory nervous system. The changes of Vadha in Pitha thalai nokkadu are,

Pranan	-	Affected
Abanan	-	Not affected
Viganan	-	Affected
Udhanan	-	Affected
Samanan	-	Affected.
Nagan	-	Not Affected
Koorman	-	Affected
Kirukaran	-	Affected.
Devethathan	-	Not Affected.
Dhananjeyan	-	Not Affected.

Affected pranana produces nasal congestion and difficulty in breathing.

Affected Viyanan produces head ache, heaviness of the head, Pain (or) Tenderness over the maxillary region.

Affected Udhanan produces sneezing and cough with expectoration

Affected samanan produces loss of appetite.

Affected Koorman produces itching and watering of the eyes.

Affected Kirukaran produces sneezing, profuse watery nasal discharge.

PITHA:

Pitha represents gastric juice, bile, energy, heat, inflammation, anger and irritation. Pitha signifies the function of thermogenesis, metabolism, digestion, formation of various secretions and excretions and also gives colour to skin and blood. Five types of pitha and their findings in Pitha thalai Nokkadu are,

Anarptham	-	affected.
Ranjagam	-	Affected.
Alosagam	-	Not Affected.
Prasagam	-	Not Affected.
Sathagam	-	Affected.

Anarpitham in Pitha thalai Nokkadu is affected which produces loss of appetite.

Ranjaga pitham may or may not be affected according to the patient's haemoglobin level.

Sathagam is affected and there by produces difficulty in performing usual works.

KABA:

Kaba represents feelings of cold, heaviness, mucous discharge and saliva. Five forms of Kaba and their findings in Pitha thalai nokkadu are,

Avalambagam	-	Affected
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Kilethagam	-	Not affected
Pothagam	-	Not Affected
Tharpagam	-	Affected.
Santhigam	-	Not Affected

Affected avalambagam produces cough with expectoration.

Affected tharpagam produces irritation and watering of the eyes.

UDARKATTUGAL:

They are the basic body structures, which constitute the entire body. They are seven in numbers. Affected body structures in Pitha thalai Nokkadu are,

Saram	-	Affected
Senneer	-	Affected
Oon	-	Not Affected
Kozhuppu	-	Not Affected
Enbu	-	Not Affected
Moolai	-	Not Affected
Sukkilam/		
Suronitham	-	Not Affected.

Affected Sacram produces tiredness of body.

Affected Senneer produces Eosinophilia and raised ESR.

Oon and Kozhuppu may or may not be affected according to the patient's nutrition and general built.

ENVAGAI THERVUGAL:

The unique diagnostic principle in Siddha system of Medicine is Envagai Thervugal. Siddhars describe in many of their literatures that envagai thervugal is an instrument for a Siddha Physician to examine and diagnose a patient. The following parameters are adopted to diagnose a patient.

Naadi (Pulse)

Sparisam (Palpation)
Naa (Tongue)
Niram (Colour)
Mozhi (Speech)
Vizhi (Eyes)
Malam (Faeces)
Moothiram (Urine).

This has been explained as follows,

“eho !;ghprk; eh epwk; bkhHp tpHp
kyk; \j;jpukpit kUe;J tuha[jk;”
“bka;f;FHp epwe;bjhdp tpHpehtpeykyk; iff;Fwp”
....nijuah;.

According to Agasthiyar Mani 4000,

“;mfj;JW nehiaf; fuj;jhk yfk; nghy;
gFj;jwptph; ehog;ghprk; bjhFj;j epwk;
fl;L tifr; brhy; bkhHpz; fz;lky \j;jpuk;eh
vl;Ltif ahYkwp tPh;”(6)

....mfj;jpah; kzp 4000.

1.PULSE:

Among envagai thervugal the chief parameters for diagnosis is pulse reading. The Siddha physician's fingers resemble a binanueal Stethoscope.

Pulse can be felt at one inch below the wrist on the radial artery by palpating it with physician's tip of index, middle and ring fingers corresponding Vadha, pitha and Kaba respectively.

The normal ratio (1 : ½ : ¼) of vadha , Pitha and Kaba is altered in Various diseases. In Pitha thalai Nokkadu, the following pulse may be seen,

☞ Pitha Vadha Naadi

PITHA VADHA NAADI:

“rpgw;ghd gpj;jj;jpy; thjeho
nrhpYW - jhJ el;lKju gPil
ciwg;ghfr; brhpahikf;Fd; k";Niy
a[w;w Ru';fpuhzp tapw;wpiur;ry; ke;jk;
miwg;ghd X';fhu “g[wePh;f;nfhit”
Mahrkpuf;f bkhL kaf;f \h;r;ir
Kiwf;fha;t[tp# tPf;fk; \ytha;t[
Kulhd neha;gyt[KLFk; gz;ng.”

....rjf eho.

PITHA KABA NAADI”

“gz;ghd gpj;jj;jpy; nrj;Jk eho
ghprpj;jhyj;jpRukpisg;g[<is
fz; fhJ ead kyk; ePUk";rs;
fdtapW bghUky; k";rs; neha; fz;nzht[
cz;ngHJ kWj;jy; uj;j tpg;g[Ujp jhDk;/
ciskhe;ij ‘gPdrKk;’ uj;j tPf;fk;
ez;ghd fhkhiy nrhif btg;g[
eqfp te;j gy gpzpa[k; ez;qj;jhnd”

....rjf eho.

KABA VADHA NAADI:

“fz;lhnah rpnw;gdj;jpy; thjeho
fye;jpLfpy; tapW bghUky ;fdj;j tPf;fk;
cz;lhnyh X';fhu rj;jp tpf;fy;
cWjpul;ir tha;t[typ rd;dpnjhlk;
tpz;lhny ,isg;gpUky; nrhif ghz;L
tplghfk; tpINiy gf;fthjk;

jpz;lhL ehrpfh gPl';ff;fy;
rpuneha;fs; gyt[k; te;J rpf;Fj;jhnd”

....rjf eho.

PALPATION:

By touching the skin and various parts of the body, the physician can rule out various abnormalities.

In Pitha thalai Nokkadu the innate warmth of the body is increased.

In Pitha thalai Nokkadu, the tenderness present in frontal and maxillary region is elicited. Yugi quotes as follows,

“bfhs;snt thjj;jpd; nufe; jhDk;
Fsph;e;Jnk rpWjplj;nj a[#;z khfpj;
bjd;dnt JoJoJ;nj apUf;Fk;

.....a{fp itj;jpa rpe;jhkzp.

According to Agasthiyar Mani 4000

“btk;ik Fiwe;jhY kpFe;jhYk; thjgpp;jk;
jk;ik epiuepiuaha;r; rhw;Wth;”

.....mfj;jpah; kzp 4000.

TONGUE:

Colour, coating, dehydration, Ulcer, fissure, deviation, movements, Variations in taste and the conditions of gum and teeth can be noted by examining the tongue.

According to Agasthiyar Mani 4000,
“Ks;sha; btoj;Jf; fWj;jhd;Kd; gpd;btSj;Jj;
js;sheP.....”

.....mfj;jpah; kzp 4000.

Tongue is in black colour, thorn like and fissure over tongue is present.

In Pitha thalai Nokkadu, Excessive salivation and Tasteless of tongue is present.

COLOUR:

Pallor, Cyanosis, Yellowish and other discolouration of the skin should be noted. The type of the body is confirmed by the skin colour whether in black (Vadha), red (or) Yellow (Pitha). White (Kaba) and mixed colours (Mixed humours)

Yugi explains as follows:

“njfj;jp dpwe;jhDe; brg;gf; nfsPh;
rpWikaha; thje;jhd; fWj;jp Uf;Fk;
nghfj;jpd; gpj;jepw k";r shFk;
bghU"; nrl;g nuhf;F btspg;g[khFk;
ghfj;jpd; bjhe;jnuh f;F jhDk;
gygytz; zKkhfpg; goe;J epw;Fk;”

....a{fp itj;jpa rpe;jhkzp.

In Pitha thalai Nokkadu, the skin colour depends upon the patient’s body condition.

SPEECH:

In examination of speech, the high (or) low pitched voice, slurred speech, aphasia, Dysarthria, nasal speech, hoarseness of voice can be noted.

In Pitha thalai Nakkadu, speech may be low pitched (or) nasal speech due to nasal congestion.

According to Agasthiyar Mani 4000,

“gynuhfp thh;j;ijg; gytpjkhk; thjj;
jiynuhfp thh;j;ijr; rkkhFk; - epiyfle;j
gpj;jnuh fpf;F cah;e;j ngr;Rz;lhk; rpnyl;Lke;jhd;
rj;jk;< dr;Rukhk; jhd;”

.....mfj;jpah; kzp 4000.

Agasthiyar Mani says - that high Pitched voice in pitha, low pitched voice in Kaba and normal voice in Vadha patients.

EYES:

Discolouration of eyes, sunking, swelling, lacrimation, ulceration, eye lids swelling and ulceration, falling of eye lashes, vision, condition of cornea, conjunctiva and pupils can be examined. Both motor and sensory disturbances of eyes are noted.

According to Yugi Vaithiya Chinthamani,

“tphpj;jpl;l thjbkd;w nuhf;Fj;jhd;
kPwpna fz;fW;Jj; jz;zPh; gha[k;
ghpj;jpl;l gapj;jpa nuh fpf;Ff; fh;hd;
gr;brd;W rpte;jpUf;F"; nrl;g nuhfp
gphpj;jpl;l gPisrhUk; btSj;jp Uf;Fk;
bgU";rd;dp thjnuh fpf;F'; fz;jhd;
fhpj;jpl;Lr; rpte;Jgr; brd;wp Uf;Fk;
fhkhiy nuhf;F gRk";r shnk”

Above verse states that eyes are in black colour with tears in vadha, red colour in pitha, white colour in Kaba patients. In delirium, mixed colours and in jaundice yellow colour are present.

In Pitha thalai Nokkadu, eyes are reddish in colour and lacrimation of eyes may be present.

FAECES:

Quantity, odour, constipation, diarrhoea, presence of blood, mucus, pus, undigested matter, tenesmus etc., can be noted.

In Pitha thalai nokkadu, the faces is black (or) normal in colour and constipation is present. Tenesmus is also present Yugi denotes it as follows,

“k”;rbsd;w thjnuhfpf;F kye; jhDk;
kyge;j khfpna fWj;jp Uf;Fk;”

.....a{fp itj;jpa rpe;jhkzp.

According to Pulipani

“kykJ fl;o Kl;o ahapLk; thjj;jpw;F”

.....g[ypg;ghzp.

According to Thanvanthiri Vaiathiyam

“nkt[thj Kilath; bka;k;kyk;
rPtp jhff; fWj;jpU”; brk;ikaha;”

....jd;te;jphp itj;jpak;

According to Agasthiyar Mani - 4000

“fWj;jky ge;jky'; fhyhFk;”

.....mfj;jpah; kzp 4000.

URINE:

The Urine analysis is done in Siddha system according to five parameters.

“te;jePh;f; fhpbail kzk;Eiu v”;rbyd;
iwe;jpa Ystit aiwFJ Kiwna”

.....njiuah; ePh;f;Fwp

bea;f;FwpE}y;.

Niram	-	It indicates the colours of urine
Manam	-	It indicates the smell of Urine
Edai	-	It indicates specific gravity of urine
Nurai	-	It indicates froth of Urine
Enjal	-	It indicates quantity of urine.

In addition frequency, Urgency, hesitancy of micturition, painful burning urination, any sedimentation and any associated discharge can be analysed

NORMAL URINE:

“kpfj; jog; g[k;kpfj; njwYk; ,d;bwdpy;
Rfj;ijj; jUk; bka;r; RghtePh; ed;nw”

.....njiuah; ePh;f;Fwp

bea;f;FwpE}y;.

The normal urine should be in medium weight and moderate clearance.

NIRAM:

According to Yugi Vaithiya Chinthamani,

“gz;ghd thjnuh fpf;F \j;uk;
ghhpj;Jj; bjspe;jpUf;Fk; btz;ikahFk;
gz;ghd gpj;j nuh fpf;F \j;uk;
khh;f;fkha; k";rspj;Jg; grj;jp Uf;Fk; ”

....a{fp itj;jpa rpe;jhkzp .

Yugi describes that Vadha Urine may be white, clear coloured and pitha urine may be yellow coloured.

In Pitha thalai nokkadu, the humours Vadha & Pitha are chiefly aggravated and the colour of urine resembles vadha urine (or) Pitha urine.

The same has been quoted as follows,

“thjnuh fk;bjspe;jhd; k";rspj;jhd; kw;iwaJ”

..mfj;jpah; kzp

2000.

“\j;jpuf; Fwpfs; nfsha; bkhHpe;jpLk; thjk; btz;ik

fhj;jpu \j;j gpj;j"; rptg;bghL rpWfK; ePUk;”

..mfj;jpah; 2000.

MANAM:

It indicates the smell of urine such as pleasant, foul smelling, honey smell, fruity smell and flex smell etc.,

“g[yhy; kz'; fkHpw; g{jpa girf;nf

lyhjpiy ae;epuf; Fzkpd; bwdpy;

mila[e;jjp bad;wijaj; jhd;kpff;

bfLjp badt['; fpsf;Fe; RUjpna”

EDAI:

It indicates the frothy nature of urine.

“mw;gKk; fdkw; wjpbjdp t[Wbkdpd;

tw;g[W rPjsk; kd;dpf; fdj;Jf;

fgj;ij ,sf;fyhy; fz;l ePh; ,@nj”

....njiuah; ePh;f;Fwp bea;f;Fwp

E}y;.

Above verse explains that high specific gravity indicates the affected vadha, pitha and kaba.

ENJAL:

It indicates the inorganic and organic deposits like salts, crystals etc., and amount of urine extracted.

“X';fpa thjj;njhh;f;F ePh;tpG'; FzKiuf;fpw;
g{' ;bfho fLj;J behe;J rpWj;Jld; bghUkptpGk;
gh';Flid; gpj;jj; njhh;f;Fg; bghrpaepPh; rpte;Jfhl;o
na';fnt RWf;fjhf bahpj;Jld; fLj;J tpGk;”
...jd;te;jphp itj;jpak;.

NEIKURI:

“mUe;Jkh wpujKk; mtpnuh jkja;
m@fy; myh;jy; mfhyt{z; jtph;e;jHe;
Fw;ws tUe;jp cw';fp itfiw
Mof; fyrj; jhtpna jhJ bga;
bjhU KTh;j; jf;fiyf; Fl;gL ePhpd;
epwf;Fwp bea;Fwp epUkpj;jy; flnd”
...njiuah; ePhf;Fwp bea;f;FwpE}y;.

A drop of gingelly oil is dropped into wide vessel containing the urine, to be tested and keep it under the sunlight. The variations of three humours in disease can be diagnosed by the behaviour of gingelly oil on the surface of urine.

“mubtd ePz;ood; m@nj thjk;”

The drop of oil lengthening like a snake indicates vadham.

“MHp nghw; gutpd; m@nj gpj;jk;”

If the drop of oil spreads like a ring it indicates pitham.

“Kj;bjhj;J epw;fpd; bkhHptjd; fgnkh”

The drop of oil remains floating as a pearl indicates kabam.

In thontha state, the oil spreads in mixed form.

By careful examination of the urine with gingelly oil, the physicians can know whether the disease is curable or not. For this purpose siddhars have explained various spreading natures of oil on urine surfaces.

DIFFERENTIAL DIAGNOSIS

VADHA THALAI NOKKADU:

“rhj;jpakhk; thjj;jpd; jiy neh;fhL
jz;ikahk; gplhp gw;wpj jiy neha[z;lh';
fhj;jpukha;f; fhjpuz;Le;jhd; typj;Jf;
fJg;goa[k; FwI;nlhL \f;F cr;rp
nej;jpa[kha; bew;wpnahL neht[khfp
beUf;fkhd tha;goj;jhw; nghny Fj;Jk;
khj;jpakhy; kdf;fpnyrg; gLj;Jk;
thjj;jpd;jiyneht[tz;ikjhnd”

...a{fp itj;jpa rpe;jhkzp.

Increased Vadha affect occipital region and produced Pain. It causes throbbing pain in the jaw, Nose, temporal and fore head, lassitude also occurs.

In Pitha thalai Nokkadu there is no throbbing pain in the jaw, but sneezing, running nose, excessive salivation , pain in eyes and eye brows occur..

SETHUMA THALAI NOKKADU:

“nehf;fhl;oy; kpfj;jz;zPh; Fof;ifahYk;
Efh;e;jgpd; g[ythkw; gLf;ifahYe;
jPf;fhl;oy; kpfj;jpuz;L rpnj;Jkj;Js;spr;
rpubk';Fk; nehthfpy; gplhpnahL
ntf; fhl;ow;nwf bky;yhk; kpf btSj;J
nkdp[anh kpft[yh;e;J RuKz;lhe;
rhf;fhl;ow; grpaw;W Urpapy;yhjhy;
rz;lhr; rpnj;Lkj;jpd; wiy nehf;fhnl”

....a{fp itj;jpa rpe;jhkzp.

Excessive intake of water during sickness, immediately going to bed after taking food, causes increased pitha - Increased pitha mixed with Kaba and produce pain in the head and occipital region. It also produces pallor, dryness, fever and anorexia.

In Pitha thalai nokkadu, there is no pallor, dryness, fever, anorexia and occipital pain.

SURYA VARTHAM:

“fe;jkhk; tyg;gf;fkplg; gf;fkhjy;
fz;zhoa[\f;foa[k; g[Utk; gw;wp
g[e;jkhk; g[Utj;jpy; CrpFj;jy;
nghy; typf;F'; fz;jhD"; RU';f;fhqk;
ge;jkh Klk; bg';Fk; ghukhFk;
gfw;ngHJ jhH;e;jt[lid; neht[kl;lhe;
Je;j khe;Je; Jkpnghy; typaz;lhf;e;
Nhpah th;j;je; jd;dpd; R+gkhnk”

....a{fp itj;jpa rpe;jhkzp.

In suryavaitham pain occurs either on left side (or) right side. Pricking pain occurs in the eye, nose and eyebrows; malaise also occurs. Pain decreases during evening Pain starts at sunrise and subside at sunset.

In Pitha thalai nokkadu, the pain occurs in both side of head and will not decrease during evening.

SANTHRA VARTHAM:

“Ragkhaa[lk; bg';Fk; typa[khfpj;
Jk;kpnah \f;filgj;Jr; Rfe;jkw;W
g[Utnk kpf typj;J bew;wpnahL
g[z;nghyf; File;jpl;Lg; g[sfkhfp
m+gukhae;jpapd; nghJ njhd;wp
mh;j;j uhj;jphp kl;Lkiyr;ryhfp
r+gkha; tpoftpw neuj;jpw;whDe;
rha;Fnk khre;jpu th;j;jkhnk”

....a{fp itj;jpa rpe;jhkzp.

Pain occurs throughout the body, Sneezing, Nasal congestion, anosmia, pain in the eyebrow starts at sunset and increases till midnight and subsides at sunrise.

In Pitha thalai Nokkadu there is no pain throughout the body. There is no pain in the eyebrow which starts at sunset and increases till midnight and subsides at sunrise.

TREATMENT:

Siddha system comprises treatment in three ways.

- ☒ Kappu (Prevention)
- ☒ Neekam (Treatment)
- ☒ Niraivu (Restoration)

1. TREATMENT:

To neutralize exaggerated vadha in pitha thalai nokkadu, laxative is given initially before the treatment. For this, Nilavagai chooranam 10gm with hot water at bedtime is given.

Then the next day, the trial medicines, Karpoora Mezugu-500mg BD and Peenisa Naasa Ganapathy thy-30ml for external use are given.

DIET:

“gj;jpaj;jh Yz;lhFk; gz;ojw;Fg; nguhz;ik
gj;jpaj;jh Yz;lhFk; ghz;g[j]';fs;-gj;jpaj;ij
tpl;lhw; gpzptiffs; tpj;jhpf;Fk; tpl;oliy
tpl;lhw; gwf;Fk; tis.”

-njiuah; btz;gh.

Above text explains that the treatment may be very effective by following proper diet regimen. If neglect this, it aggravate the disease.

According to Theraiyar Venba,

“,ytk; g[zpfLbtz; zhY Kjyhf
bthbthU Fzkh bahHptha; -etpyiwr;rp
TH;g;ghz;l kr;rk;bgz; nfhj;jpu';bfhs; gpukgj;hp
jPH;g;ghF bkj;jtpJ rP.”

-njiuah; btz;gh

Theraiyar Venba explains that salt, tamarind, mustard, gingelly oil plant seed, pumpkin, horsegram, ragi, tobacco, fish, meat and sexual intercourse should be avoided during treatment.

“cgij ypFr';fl; Lg;gpye;ij rhfe;
jtrpfpw nghrdF nlhhp-apitfs; gR
bea;ghy; nkhh; Rf;nfy bew;bghhpgPh; rpy;ypth';f
bka;apitf S";nrU bka;.”

-njiuah; btz;gh

Lemon, fried salt, spices, jujuba pepper, drumstick, cumin seeds, cow-milk, ghee, buttermilk, dried ginger, cardamom seeds, rice, ribbed luffa, brinjal, asofoetida are taken along with medicines.

2. According to Pathartha Guna Chinthamani

“br';fG ePh;nfhile; njd;kpsF ey;byz;bza;
j';F bgU'; fhae; jGjhiH - v';bf';Fk;
Tl;LrpW Kj;Jbea; nfhjpy; cGe;jpitfs;
thl;Lkzp ye;ij kjp”

...gjhh;j;;j Fz rpe;jhkzp.

Water lilly root tuber, costus root, pepper, gingelly oil, asofoetida, clerodendran phlonoides, castor oil and black gram relieves vadha diseases.

“bfhk;kl;o thiHg; gd;d';
bfhSj;jpa fhpapndhnl
tpk;kpa jz;zPh; tpl;lhd;
ntbuD'; fpH';F rhe;j";
brk;iknrh; bey;yp Ks;sp
nrUkpk; kUe;b;bjy; yhnk
fk;kpa gpj;jj; jpw;Ff;
fhybdd; nwhJ thnu.”

...gjhh;j;j Fz rpe;jhkzp.

Pitha diseases are cured earlier by taking watermelon, burnt ash of dried plantain trees, asparagas root tuber, sandal, dried goosebury etc. during treatment.

“gj;jpa'; nfhHp KI;il gRk;ghy;

Kj;jbea; KU';ifapiy

kw;Wk; epfhpy; fj;jhpf; TI;Lk;

gj;Jnk Jtiu jhDk; gz;ghd gPdprk; nghnk”

...Fzghlk; ghly; vz; 343

nfhHpKI;il/ gRk;ghy;/ Mkzf;F bea;/ KU';ifapiy/ fj;jhpf;TI;L/

Jtiu cl;bfhs;s gPdprk; eP';Fk;.

Cool drinks, Ice cream, curd, lemon juice should be avoided.

Milagu, Manathakali, Thoothuvalai, Kaeisalai, Kandankathari, Avarai should be added.

MEDICAL ADVICE:

1. Advised not to be in polluted place and exposure to cold atmospheric conditions.
2. Advised to avoid inhalation of dust, fumes and aromatic substances, which induces sneezing.
3. Advised to drink and bath in warm water.

4. Advised to take head bath using medicated oil once in four days. At the time of head bath itself two drops of medicated oil dropped into or applied into nostrils and ears.
5. If steam inhalation with turmeric powder and leaves of notchy is also beneficial.
6. The hair should be dried well after taking bath otherwise it will aggravate the headache and heaviness of head.
7. Sleep during day time is avoided especially after taking oil bath in the morning.

SPECIAL MEDICINES IN SIDDHA SYSTEM.

They are,

- 1.Yoga.
- 2.Pranayana.

Regarding Pitha thalai nokkadu the following asanas can be advised to the patients.

1. Sarvasana.
- 2.Viparithakarani.
- 3.Yogamuthra.
- 4.Halesana
- 5.Usartasana.
- 6.Vajjurasana.
- 7.Mahamuthra.

Yoga and Pranayana are considered as supportive therapy in Pitha thalai nokkadu.

If Pranayana is practiced the respiratory passage will be cleared off all its discharges.

ANATOMY OF NOSE

THE- NOSE:

The nose is externally pyramidal shaped.

BOUNDARIES:

It has a roof, floor, medial wall and lateral wall

ROOF:

1. It is a narrow area. The anterior part of the roof is formed by the frontal bones.
2. The middle roof is formed by Cribriform plate of the ethmoid bone.
3. The posterior part of the roof is formed by the body of the sphenoid bone.

FLOOR:

1. Palatine process of the maxilla.
2. Horizontal process of the palatine bones.

THE MEDIAL WALL OF THE NOSE:

(Septum of the nose)

The septum divides the nasal cavity into right and left cavities. The septum may (or) may not be situated in the midline. The septum is formed by bones and cartilages and covered by the mucoperiosteum and skin.

COMPONENTS OF THE SEPTUM:

- ❖ Posteriorly by the perpendicular plate of the ethmoid bone.
- ❖ Posteriorly by the Vomer bone.
- ❖ Anteriorly by septal cartilage.

ACCESSORY COMPONENTS:

1. Rostrum of the sphenoid bone.
2. Frontal bone.

3. Nasal bone.
4. Anterior nasal spine of the Maxillae.
5. Palatine bone.
6. The medial crust of the greater alar cartilage.

THE NASAL SEPTUM MAY BE DIVIDED INTO FOLLOWING PARTS:

1. Cuticular part is situated antero inferiorly.
2. Cartilagenous part is situated in the middle.
3. Bony part is situated postero superiorly.

BORDERS:

It has 4 borders namely,

1. Anterior border.
2. Posterior border.
3. Inferior border.
4. Superior border.

SURFACES:

It has 2 surfaces namely,

- a. Right surface.
- b. Left surface.

The surfaces of the septum may show bony spaces. Along the anterior inferior part of the septum, there may be an opening for the vomero nasal organ of jacobson may be situated.

BLOOD SUPPLY:

1. Long spheno palatine artery.
2. Greater palatine artery.
3. Superior tabial branch of the facial artery.

4. Anterior ethmoidal artery.

In the anterior inferior quadrant of the nasal septum these arteries communicate freely to form the Kiesselbach's area (little area). Injury to this area causes epistaxis.

VENOUS DRAINAGE:

1. Facial Vein.
2. Pterygoid Venous plexus.

LYMPHATIC DRAINAGE:

1. Submandibular lymph nodes.
2. Retropharyngeal lymph nodes.
3. Anterior Superior group of deep cervical nodes.

NERVE SUPPLY:

1. Olfactory nerves carry the sense of smell from the upper part of the septum.
2. Nasopalatine nerve.
3. Anterior Ethmoidal nerve.
4. Anterior Superior alveolar nerve.

AUTONOMIC NERVE SUPPLY:

Vidian's nerve through the sphenopalatine ganglion.

THE LATERAL WALL OF THE NOSE.

This is an irregular space bounded by the nasal surface of the many bones. The bones forming the lateral wall of the nose are arranged into 3 zones.

The anterior zone is formed by,

1. Maxilla.
2. Nasal bone.

The middle zone is formed by,

1. Ethmoid bone.
2. Maxilla.
3. Conchae bone.

The posterior zone is formed by

1. Perpendicular plate of the palatine bone.
2. Medial pterygoid bone.

The lateral wall is irregular because it has three bony elevations called conchae.

The space between the adjacent conchae is known as the meatus.

The lateral wall is lined by mucous membrane called Mucoperiosteum.

The superior and middle conchae are formed by the labyrinthine part of the ethmoid bone.

The inferior conchae is formed by the conchae bone or turbinate bone. The inferior conchae articulates anteriorly with the maxilla and posteriorly with the perpendicular plate of the palatine bone. The lateral wall is divided into three areas.

1. Vestibule.
2. Atrium of the middle meatus.
3. Area of conchae and meatuses.

THE VESTIBULE:

This area is lined by the skin. So it is provided with hairs called Vibrissae.

The vibrissae arising from the anterior wall of the vestibule are directed backwards and vibrissae from the posterior wall are directed forwards. These vibrissae forming a sieve at the nasal entry. The vestibule is limited above by the limen nasi.

ATRIUM OF THE MIDDLE MEATUS:

This depression is situated above the vestibule but in front of the middle meatus. It is limited superiorly by a ridge known as agger nasi. The agger nasi is developed in lower mammals.

AREA OF CONCHAE AND MEATUSES:

There are 3 conchae and 4 meatuses. The conchae are,

1. Superior conchae.
2. Middle conchae.
3. Inferior conchae.

The meatuses are,

1. Spheno ethmoidal recess.
2. Superior meatus.
3. Middle meatus.
4. Inferior meatus.

The spheno ethmoidal recess is situated between the superior conchae and body of the sphenoid bone. In to this space the sphenoid air sinus is opening.

Sometimes within the spheno ethmoidal recess the highest conchae may be present. This conchae divides the recess into superior meatus and spheno ethmoidal recess.

THE SUPERIOR MEATUS:

The superior meatus is the narrowest among the meatuses. It is situated between the superior and middle conchae. The posterior ethmoidal air cells opens into space.

THE MIDDLE MEATUS:

This is the space between the middle conchae and inferior conchae. Anteriorly the middle meatus opens into the atrium of the middle meatus. The bulle ethmoidalis is an elevation caused by the middle ethmoidal air cells found in the meatus.

Below the bulle ethmoidalis there is a semilunar shaped gutter called hiatus semilunaris is situated.

The hiatus semilunaris is bounded below by the uncinat process of ethmoid bone. Into the anterior part of the hiatus, ethmoidal infundibulum opens. This opening is a common passage for the frontal air sinus and anterior ethmoidal air cells.

On the surface of the bulle ethmoidalis the middle ethmoidal air cells are opening.

The posterior part of the hiatus semilunaris receives the openings of the maxillary air sinus. There may be more than one opening for the maxillary air sinus.

In the anterior part of the inferior meatus, the naso lacrimal duct opens. This opening is guarded by the Hasner's valve. This valve doesnot permit entry of air into the naso lacrimal duct.

BLOOD SUPPLY TO THE LATERAL WALL OF THE NOSE:

The lateral wall of the nose is divided into 4 quadrants. Each quadrant has separate blood supply.

ANTERIO SUPERIOR QUADRANT:

Anterior ethmoidal artery.

Posterior ethmoidal artery.

Facial artery.

POSTERIO SUPERIOR QUADRANT:

Spheno palatine artery(Maxillary artery).

ANTERIO INFERIOR QUADRANT:

Facial Artery.

Perforating branches of greater palatine artery.

POSTERIO INFERIOR QUADRANT:

Greater palatine artery and its branches.

VENOUS DRAINAGE:

Anterior part drains into exterior facial vein.

Middle part drains into pterygoid venous plexus.

Posterior part drains into pharyngeal Venous plexus.

LYMPHATIC DRAINAGE:

Anterior part drains into sub mandibular lymph nodes.

Posterior part drains into retero pharyngeal lymph nodes.

NERVE SUPPLY:

The sense of smell from the lateral wall is carried by the olfactory nerves.

PARASYMPATHETIC SUPPLY:

Vidians nerve(Nerve of the pterygoid canal).

SENSORY SUPPLY:

ANTERO SUPERIOR QUADRANT:

Anterior ethmoidal nerve.

POSTERO SUPERIOR QUADRANT:

Spheno palatine branches of spheno palatine ganglion.

ANTERIO INFERIOR QUADRANT:

Anterior Superior alveolar nerve.

POSTERIO INFERIOR QUADRANT:

Greater palatine nerve(Spheno palatine ganglion).

HISTOLOGY OF THE NASAL CAVITY:

The mucous membrane covering the respiratory portion of nasal cavity as a ciliated columnar epithelium with interspersed Goblets cells. The underlying lamina propria is rich in mucous glands and blood vessels.

The para nasal sinus are lined by ciliated columnar epithelium, but they lac vascular plexus. They drain through small ostia into the nasal cavity. This ostia can be obstructed by only moderate mucosal swelling.(eg. Oedema caused by inflammation) tumour (or) foreign body. The anatomic relationship favour certain roots of spread of disease and therefore play an important role in the development of complication.

ANATOMY OF PARA NASAL SINUSES**PARA NASAL SINUSES:**

The para nasal sinuses are air containing bony spaces around the nasal cavity and lined by the mucous membrane of ciliated columnar epithelium. They develop as mucous diverticula of the nasal cavity and invade the neighbouring bones at the expense of the diploic tissue. The sinuses are arranged in pairs and are names as follows,

- ❖ Frontal
- ❖ Ethmoidal
- ❖ Sphenoidal
- ❖ Maxillary.

They are divided into two groups. Anterior group comprises frontal air sinus, the maxillary air sinus and the anterior ethmoidal air cells.

The posterior group comprises the posterior ethmoidal air cells and the sphenoidal sinus.

The anterior group of sinuses drains into the middle meatus and the posterior group drains into the superior meatus and the sphenoidal recess. The sinuses are present in rudimentary form at birth, except the frontal sinuses which start development two (or) three years after birth. They enlarge rapidly during the ages of 7-8 yrs.(time of eruption of permanent teeth) and then after puberty.

FUNCTIONS OF PARA NASAL SINUSES:

The exact function is not known. Probably they may have following functions.

1. Warming and moistening of inspired air may be partly done by the large mucosal surfaces of these adjacent sinuses.
2. The air filled sinus cavities probably add resonance for the production of sounds.
3. The temperature buffers. It is regarded that these chambers probably protect contents of orbits and cranial fossae from the intranasal temperature variations.
4. Probably sinus formation in the cranial bones helps in reducing the weight of the cranial bones.
5. The sinus mucosa may act as a donor site for reconstructive procedures. Eg. for Subglottic stenosis and implantation of maxillary sinus mucosa into the nasal cavity in atrophic rhinitis.
6. Protection of the orbit by acting as a shock buffers.

7. Facial growth occurs rapidly after the formation of the sinuses.

FRONTAL SINUSES:

They are two in number and are contained within the tables of the squamous part of the frontal bone, deep to the medial end supraciliary arches. It extends upwards above the medial end of eye brow and backwards into the medial part of the root of the orbit. Each sinus is triangular in shape. Absent at birth, fairly developed at 7th to 8th year reach full size only after puberty

Capacity:

Each sinus has a capacity of about **7cc**.

MEASUREMENTS:

Depth	-	2.5cm
Height	-	3cm
Breadth	-	2.5cm

COMMUNICATIONS:

It opens into the middle meatus of Nose at the anterior end of the hiatus semilunari's either through the infundibulum (or) through the fronto nasal duct. The right and left sinuses are usually unequal in size separated by a thin plate of bone. The sinuses are better developed in males than in females. The frontal sinus is lined with coloumnar epithelium.

Blood Supply	-	Supra Orbital Artery
Lumphatic drainage	-	Sub.mandibular nodes
Nerve Supply	-	Supra orbital nerve
Venous drainage	-	into the anastomotic vein between the supra orbital and superiorophthalmic veins in the supra orbital notch

MAXILLARY SINUSES:

It lies in the body of maxilla and is the largest of all the para nasal sinuses. It is pyramidal in shape with its a base directed medially towards the lateral wall of the nose and the apex directed laterally in the Zygomatic process of maxille. Average measurements of each sinus are as follows,

Vertical (opposite 1 st molar teeth)	-	3.75cm
Transverse	-	2.5cm
Antero - Posterior	-	3.25cm
Capacity	-	About 9.5 to 20cc

The fully developed maxillary air sinus should extend from the first premolar to the third molar teeth. The sinus reaches upto the floor of the orbit and thus occupies practically the whole body of the maxillary bone.

BOUNDARIES:

Each sinus is roughly pyramidal in shape and presents the following boundaries.

APEX:

Zygomatic process of maxilla

BASE:

By the nasal surface of the body of maxilla, in which lies in the recent state the opening of the maxillary sinus close to its roof. In the disarticulated skull the base presents a large opening, the maxillary hiatus which is reduced in size by the following bones.

- ❖ Uncinate process of ethmoid bone from above
- ❖ Ethmoidal process of inferior nasal conchae.
- ❖ Descending process of lacrimal bone from the front

- ❖ Perpendicular plate of palatine bone from behind
- ❖ The macerated skull two openings are present. One above on the other below the uncinat process in recent state usually the lower opening is closed by a plug of mucous membrane.

ROOF:

It is formed by the floor of orbit and is transversed by the infra orbital vessels and nerve in a bony canal.

FLOOR:

It is formed by the alveolar process of maxilla. The floor is marked by several conical elevations produced by the roots of the upper molar and premolar teeth. The roots may even penetrate the bony floor to lie beneath the mucous lining, so that the infection of maxillary air sinus in apical tooth abscess becomes obvious. Extraction of poorly covered tooth can result in an abnormal communication between mouth and antrum known as Oro-antral fistula.

ANTERIOR WALL:

Related to the infra orbital plexus of vessels and nerves and the origins of muscles of upper lip. Within the wall anterior superior alveolar vessels and nerves traverse in a bony canal, the canalis sinuses.

POSTERIOR WALL:

It is pierced by posterior superior alveolar vessels and nerves and forms the anterior boundary of infra temporal and pterygo palatine fosses.

COMMUNICATIONS:

It opens into the middle meatus of the nose in the lower part of the hiatus semilunaris and the opening lies just below the bulla ethmoidalis. The openings are near the roof that the floor of the sinus. So the opening is located much higher from the floor of the sinus in disadvantageous position for natural drainage.

The maxillary air sinus is lined by ciliated columnar epithelium. It is richly provided with glands which are situated chiefly around the ostium.

BLOOD SUPPLY:

From the anterior middle and posterior Superior alveolar vessels of maxillary.

LYMPHATIC DRAINAGE:

Sub. mandibular nodes

NERVE SUPPLY:

From the anterior middle and posterior superior alveolar nerves, branches of maxillary and infra orbital nerves.

VENOUS DRAINAGE:

Facial vein and pterygoid plexus of veins.

ETHMOIDAL SINUS

There are numerous small inter communicating spaces which lie within the labyrinth of the ethmoidal bone. They are completed by the frontal, Maxillary, lacrimal, Sphenoidal and palatine bones. They lie between the upper part of the nasal cavity and the orbits and are separated from the orbits by extremely thin orbital plates of ethmoids. The sinuses are divided into anterior, middle and posterior groups.

ANTERIOR SINUSES:

The anterior ethmoidal sinus is made up of upto 11 air cells. It opens into the anterior part of the hiatus semilunaris of the nose.

MIDDLE SINUSES:

The middle group generally comprises three cavities which opens into middle meatus by one of more orifices on (or) above the ethmoidal bulla.

POSTERIOR SINUSES:

The posterior group varies from one to seven in number and usually opens by one orifice into superior meatus of the nose.

BLOOD SUPPLY:

Anterior and posterior ethmoidal branches of Ophthalmic Artery.

LYMPHATIC DRAINAGE:

Anterior and middle groups of sinuses drained into submandibular lymphnodes.

Posterior group drains into retropharyngeal lymph nodes.

SPHENOIDAL SINUSES:

These paired sinuses are located within the body of sphenoid bone above and behind the nasal cavity. Each sinus is some what asymmetrical and presents the following average measurements.

- Vertical - 2.2cm
- Transverse breadth - 2cm
- Depth - 2.2cm.

EXTENDS:

Posteriorly it may extend upto the anterior margin of foramen magnum. Anteriorly it may encroach the roof of the orbit laterally extends upto pterygoid canal.

RELATIONS:

ABOVE: Optic chiasma and Hypophysis cerebri.

BELOW:- Roof of the nasopharynx.

On each side cavernous sinus and internal carotid artery.

Behind pons and medulla oblongata separated by the basilar venous plexus, in front of the sphenoidal recess.

COMMUNICATIONS:

Each sinus opens into the sphenoidal recess and hence into the superior meatus of nose.

BLOOD SUPPLY:

Posterior ethmoidal vessels.

NERVE SUPPLY:

Posterior ethmoidal nerve and orbital branches of pterygo palatine ganglion.

LYMPHATIC DRAINAGE:

Retropharyngeal nodes.

PHYSIOLOGY OF THE NOSE AND PARA NASAL SINUSES:

The nose forms the gateway of the respiratory system and serves the following important functions.

1. RESPIRATORY PASSAGE:

The inspired air passes upwards in a narrow stream medial to the middle turbinate and then downwards and backwards in the form of an arc and thus respiratory air currents are restricted to the central part of the nasal chambers.

2.FILTRATION:

The nose serves as an effective filter for the inspired air.

- a) Vibrissae (Nasal hair) in the nasal vestibule arrests large dust particles of inspired air.
- b) The fine particulate matter and bacteria are deposited on the mucous blanket which covers the nasal mucosa. The mucous contains various enzymes like lysozymes having anti bacterial properties.
- c) The mucous with the particulate matter is carried by the ciliary movements posteriorly to the oropharynx to be swallowed.

3. AIR CONDITIONING AND HUMIDIFICATION:

The highly vascular mucosa of the nose maintains constancy of temperature of air and thus prevents the delicate mucosa of the respiratory tract from any damage due to temperature variations. The humidified air is necessary for proper functioning and integrity of the ciliated epithelium.

4.VOCAL RESONANCE:

The nose and para nasal sinuses serve as vocal resonators and nasal passages are concerned with production of nasal consonants like M and N. Thus obstructions of nasopharynx and nose alter the tone of voice.

5. NASAL REFLEX FUNCTION:

The respective fields of various reflexes lie in the nose. Those include sneezing and naso-pulmonary, naso - bronchia and olfactory reflexus. These protect the mucosa and regulate the vaso motor for tone of the blood vessels.

6. The nasal cavity serves as an outlet for lacrimal and sinus secretions.

7.AERATION:

Air in the nasal cavity helps in aeration of the para nasal sinuses and the middle ear through eustachian tube.

8. OLFACTORY:

This function is less developed in human beings. This sensation plays the most important role in behaviours and reflex responses of lower animals.

SENSE OF SMELL

OLFACTORY NERVE:

These are the sensory nerves of smell. They have their origins in special chemoreceptor nerve cells in the mucous membrane of the roof of the nose above the superior nasal conchae. On each side of the nasal septum nerve fibres from the cell bodies pass through the cribriform plate of the ethmoid bone to the olfactory bulb where inter connections and synapses occur. From the bulb, bundles of nerve fibres form the olfactory tracts which pass backwards to the olfactory area in the temporal lobe of the cerebral cortex in each hemisphere where the impulses are interpreted and Odour perceived.

PHYSIOLOGY OF SMELL:

The sense of smell in human beings is generally less acute than in other animals. All odorous materials give off chemical particles which are carried into

the nose with the inhaled air and stimulate the nerve cells of the olfactory region when dissolved in mucous.

The air entering the nose is heated and convection currents can eddies of inspired air from the main stream to the roof of the nose. "Sniffing" concentrates more particles, more quickly in the roof of the nose.

This increases the number of olfactory receptor cells, stimulated and thus the perception of the smell. The sense of smell may affect the appetite. If the odours are pleasant, the appetite may improve and viseversa. The sense of smell may create long lasting memories,especially to distinctive odours.

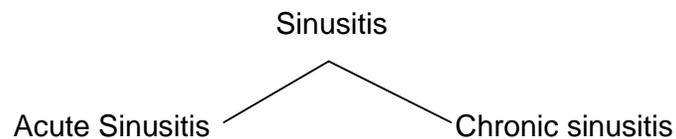
Adaptation-when an individual is continuously exposed to an odour, perception of the odour quickly decides and eventually ceases. This loss of perception only affect that specific odour and adaptation. Probably occurs both in the cerebrum and in the nerve endings in the nose.

SINUSITIS:

DEFINITION:

Sinusitis is an inflammation of the mucosal lining of sinus cavity. Inflammation may be suppurative or non suppurative.

CLASSIFICATION:



ACUTE SINSUSITIS:

DEFINITION:

It is an acute inflammation of the mucosa of paranasal sinuses. If inflammatory process occurs in more than one sinus, it is called multi sinusitis. If all para nasal sinuses are involved it is called Pan Sinusitis.

AETIOLOGY OF SINUSITIS:

1. DENTAL SEPSIS:

Eg. Periapical abscess, periodontal abscess etc. (or) dental extraction particularly in connection with maxillary sinus, where roots of teeth project into the sinus.

2. TRAUMATIC:

In fracture of sinus, infection may spread directly (or) by infected blood clots.

3. SWIMMING AND DIVING:

Directly spread through the ostium.

4. Secondary bacterial infection from acute rhinitis may spread to sinuses through ostium or sub-mucosal lymphatics.

5. INFECTIONS:

a. Bacterial infection:

Streptococci

Staphylococci

Pneumococci

Hemophilus influenzae

Escherichia coli

Micrococcus Cataerhalis.

Bacillus pteiffer and B.

b. Viral infection:

Rhinovirus

Para influenza I and II

Echo 28

Coxsacki A 21

Respiratory Syncytial Virus.

c. Fungal infections:

Para coccidiomycosis

Mucormycosis

Rhinosporidiosis

Rhinophycomycosis

Aspergillosis

Actinomycosis.

6. PREDISPOSING FACTIORS:

a. Local:

Foreign body

Nasal Allergy

Enlarged adenoids

Deviation of nasal septum etc.

b. General:

Low general health

Chilling

Environmental pollution

Prolonged Exposure to cold

Associated chest infection

PATHOLOGY OF SINUSITIS:

The mucosa of sinus shows chronic inflammatory changes. The cilia get damaged by the infection with resultant inadequate drainage of the sinus cavity, particularly the maxillary sinus where the ostium is situated high up in the medial

wall. The retained secretions thereby lead to reinfection. Periphlebitis and perilymphangitis, may occur, leading to oedema and polyp formation, so called hypertrophic (or) Polypoidal sinusitis.

Sometimes there occurs metaplasia of the ciliated columnar epithelium to stratified squamous type with interspread Papillary hyperplastic epithelial and inflammatory cells producing a picture of papillary hypertropic sinusitis. Occasionally the chronic inflammatory process may induce atrophic changes in the sinus mucosa with increase in sub mucosal fibrous tissue. (Atropic Sinusitis).

CLINICAL FEATURES:

Patient usually gives history of cold. After 3 to 4 days when symptoms should have diminished, there is exacerbation of symptoms.

1. Nasal obstruction becomes worse, watery rhinorrhoea is changed to thick muco-purulent secretion. Occasionally there may be epistaxis or blood stained nasal discharge.
2. Head ache and sense of heaviness present over the head.
3. Pain over infected sinus-stabbing (or) aching in character. This is made worse by bending (or) coughing.
4. Rise temperature, malaise and depression.
5. Unpleasant taste with post-nasal discharge is often present.
6. Tenderness over the frontal or the maxillary sinus and overlying soft tissue may be oedematous at times.

INFECTION OF INDIVIDUAL SINUSES:

FRONTAL SINUSITIS:

1. Pain occurring in frontal Sinusitis is usually in the frontal region. There may be periorbital pain, pain is usually located to forehead.

2. Frontal headache, in early stage is called “vacuum frontal head ache” due to blockage of the frontonasal duct and absorption of air.
3. The head ache usually severe and periodic, present on walking and increases until mid day and then subsides gradually. Use of eyes may be painful.
4. There may be tenderness on the floor of frontal sinus. In some cases there may be oedema and puffiness of the upper lid.

ETHMOIDEL SINUSITIS:

1. Head ache: It is usually located between and behind the eye regions (or) radiates to the temporal eye.
2. Nasal obstruction is frequent with loss of sense of smell.
3. There may be oedema over the nasal bones.
4. The middle turbinate shows oedematous inflamed mucous membrane.

SPHENOIDAL SINUSITIS:

1. Head ache: Usually located in the occipital area of the head. The pain may be referred from the occipital region of the mastoid area.
2. The purulent post nasal discharge is a prominent feature of acute sphenoiditis.
3. Vertigo may be present.

MAXILLARY SINUSITIS:

It is the commonest of all sinus infection. Ostium of the maxillary sinus is situated high up in the medial wall which is not advantageous for self drainage and easily blocks, and predisposes to infections. Infection is usually from the nose (or) dental sepsis of upper jaw. The roots of molar teeth lie close to the floor of the maxillary antrum.

CLINICAL FEATURES OF MAXILLARY SINUSITIS:

1. PAIN:

The symptoms are variable and may be general (or) localized to the ear, nose and throat. The pain is variable mild to severe. It may be present over the sinus (or) along the upper molar and premolar (or) referred to frontal area, temple (or) above the ear. Pain is mainly due to oedema of the ostium producing blockage of the sinus and pressure.

2.Nasal discharge:

The patient frequently complains of excess nasal discharge which could be mucoid, mucopurulent (or) purulent.

Nasal discharge is very foul smelling in cases of sinusitis of dental origin. Pus may also be found on hawking.

3. Post nasal Drip:

Excessive production of post nasal discharge is a common symptom which causes irritation and compels the patient to clear his throat frequently.

4. There is tenderness over the cheek. Swelling of the alveolar margin and the lower part of cheek may be seen in cases of dental sepsis. Oedema over infra orbital region is present in some cases.

5. Nasal obstruction:

It may be the result of an underlying obstructive pathology of the nose like a deviated septum. Polyposis (or) hypertrophied turbinates (or) because of chronic turgescence of the nasal mucosa.

6. Sore throat:

Inflammation of air ways due to inflammatory mediators like brady kinin cause smooth muscle contraction resulting in throat pain, hoarseness of voice, excessive salivation and pharyngitis.

7. Facial pain (or) Discomfort:

Vague discomfort present all over the face.

8. Abnormalities of smell:

The patient may complain of diminished acuity of smell (Hyposmia). He may complain of unpleasant odour (cacosmia) (or) may have distortion of smell perception (Parosmia)

9. Epistaxis:

Inflammatory hyperaemia in the nose may result the epistaxis but this is uncommon.

10. The general symptoms of sinusitis include a sense of tiredness, low grade fever and feeling of being unwell. Chronic sinusitis may produce effects on other systems like gastro intestinal upsets and chronic bronchitis.

ETIOLOGICAL FACTORS:

1. Deviated nasal septum
2. Nasal polyps
3. Facial Trauma
4. Allergens
5. Extension of odontogenic infections.
6. Nasocomical Sinusitis: Prolonged nasotracheal (or) Naso gastric intubation Associated.
7. The most common organisms involved include

1. Haemophilus influenzae
2. Streptococcus Pneumoniae
3. Streptococcus pyogenes.
4. Alpha haemolytic streptococci.

INVESTIGATIONS:

1. Radiology of Para nasal Sinus:

It is the most sensitive and specific test. Shows haziness of the affected sinus or all sinuses. In cases of empyema fluid can be seen in the maxillary sinus.

2.C.T.SCAN:

When indicated is even more sensitive in detecting sinusitis.

3. Transillumination Test is helpful in maxillary and frontal sinusitis.

4. Anterior rhinoscopy:

The nasal mucosa is congested and there may be trickle of pus under the middle turbinate and in the post-nasal space.

5. Nasal swab culture.

6. Serum immunoglobulins - IgG., IgA, IgM, Subclasses.

7. Antibody titres

8. Delayed hypersensitivity tests.

9. Direct sinus aspiration is the only procedure that can provide accurate information concerning aetiology.

Complications of sinusitis:

The para nasal sinuses are situated close to the eyes, brain and nose, and the infection can easily spread from sinuses to orbit and intracranial cavity giving rise to serious complications.

Nasal complications:

- 1) Chronic rhinitis
- 2) Secondary atrophic rhinitis
- 3) Chronic hypertrophic rhinitis
- 4) Nasal polyposis.

Orbital complications:

1. Orbital cellulitis
2. Orbital abscess
3. Retrobulbar neuritis
4. Superior orbital fissure syndrome
5. Orbital apex syndrome.

Pharyngeal and Laryngeal complications:

1. Lateral wall pharyngitis
2. Granular pharyngitis
3. Pharyngo Laryngitis
4. Tonsillitis.

Ear Complications:

1. Eustachian catarrh and Middle ear effusion
2. Chronic suppurative otitis media.

Intra ear complications:

1. Meningitis
2. Encephalitis
3. Extra dural abscess
4. Sub.dural abscess.
5. Frontal abscess of brain

6. Cavernous sinus thrombosis.

Bony complications:

Osteomyelitis of facial bones.

Miscellaneous:

Mucoceles

Pyoceles

Oro antral fistule

CHRONIC SINUSITIS:

Definition:

This is chronic inflammatory process affecting mucosa of various groups of para nasal sinuses. The recurrent attacks of acute sinusitis lead to chronic sinusitis.

Aetiology:

1. Nasal obstruction leads to chronic sinus infection (eg),

a) Deviated nasal septum

b) Oedematous turbinates

c) Polyps

2. Recurrent attacks of acute sinusitis and upper and lower respiratory infection.

3. Chronic dental sepsis and also associated with lower respiratory infection.

4. Atmospheric pollution:

Damp environment and Poor nutrition also leads to chronic sinusitis

5. Inadequate aeration of the sinuses due to allergy and narrowing of the sinus ostium from infection.

Clinical features:

1. Nasal obstruction due to oedema of the turbinates and thick mucous tenacious secretions.
2. Sinus infection may set up a chronic rhinitis with nasal obstruction resulting from hypertrophy of the nasal mucosa and turbinates
3. Pain is not a typical feature, but dullache may be present over the sinus concerned.
4. Head ache may be present certain periodicity increasing after rising in the morning, but gradually decreasing as the day goes on or vice versa.
5. Excess nasal discharge secretions usually frank mucosa and pus are discharged.
6. Epistaxis results from the inflammatory vasodilation in the nose.

7. Disturbance of olfaction:

Abnormalities of smell are common in chronic sinusitis. Some times patient complains of foul smell (or) poor sense of smell and taste. There may be carcosmia (Unpleasant smell) (or) hyposmia and parosmia in patients with underlying allergic rhinitis.

8. General symptoms include low grade, fever, lassitude, mental apathy and depression may be present.
9. Inflammation and swelling of the Eustachian orifice. Occasionally this may turn into acute otitis media.
10. Pharyngitis may be main symptom and tonsils may become infected.

INVESTIGATIONS :

1. RADIOLOGICAL EXAMINATION of para nasal sinuses shows some of the following features,

- a. Mucosal thickening of the lining mucosa.
- b. Opacity (or) Uniform haziness of the maxillary sinus.
- c. Polypoid hypertrophy of lining mucosa
- d. Osteitis (or) Osteosclerosis.

2. ANTERIOR RHINOSCOPY:

will reveal dull colour of nasal mucosa. Trickle of pus is seen under the middle meatus, if the anterior group of sinuses are involved. The anterior end of the middle turbinate may be oedematous and turgid. In such case application of 4% Xylocaine will reduce the swelling and trickle of pus will be seen better.

3. POSTERIOR RHINOSCOPY:

Will show pus in the middle meatus in maxillary sinusitis and in the sphenoidal recess in sphenoidal sinusitis.

4. TRANSILLUMINATION TEST:

Is seldom practised now-a-days.

5. NASAL SWAB

Shows increased eosinophil count in allergy variety, bacteriology shows Streptococcus commonly and also pneumococci.

6. SINOSCOPY:

Fibre-optic sinuscope is introduced in maxillary cavity through antrostomy and detailed pathology seen.

7. CT-SCAN: COMPUTED TOMOGRAPHY.

Computed Tomography is much more sensitive than other routine radiography, particularly for ethmoid and sphenoid disease. It should be reserved for complicated cases and for cases in hospitalized patients however. In light of

the recent finding that sinus CT shows reversible acute changes in patients with common cold, it is apparent that routine early use of CT would lead to over diagnosis of bacterial sinusitis.

8. MRI: MAGNETIC RESONANCE IMAGE:

It is very useful diagnostic method, to rule out a drainable orbital abscess in the sinuses.

TREATMENT:

ACUTE SINUSITIS:

The treatment can be discussed in three headings. They are Prophylactic treatment, Medical treatment and Surgical treatment.

4. PROPHYLACTIC TREATMENT:

1. Prevention of colds by general treatment.

a. Good Ventilation.

b. Proper humidity.

c. Inherent resistance produced by a healthy life and good mixed diet with sufficient vitamins A, C and D.

d. Flying and swimming with a cold should be avoided.

2. VACCINES:

They are injected sub-cutaneously or intra dermally, taken orally or applied locally to the nasal mucous membrane. There has been decrease in interest over the last decade regarding the use of vaccines.

B. MEDICAL TREATMENT:

1. To control infection.

2. To encourage opening up of the sinus ostium.

3. Symptomatic relief and general treatment.

CONTROL OF INFECTION:

by antibiotics.

OPENING UP OF SINUS OSTIUM:

- a. Nasal congestion. Helps in drainage of sinuses.
- b. Steam inhalation.
- c. Anti histamine administration is helpful.

SYMPTOMATIC RELIEF AND GENERAL TREATMENT:

- a) Rest - in bed in a warm, well ventilated room.
- b) Analgesics - helps to relieve the pain.
- c) Local heat - by radiant heat or hot water bottle used for 10 minutes relieves pain.
- d) Diet - Plenty of fluid and nourishing diet. Vitamins are added. Tobacco and alcohol should be avoided as they congest the nasal mucosa.
- e) Mouth care - Should be taken in case of dental sepsis.

C. SURGICAL TREATMENT:

Surgical treatment is occasionally needed in acute sinusitis. It is reserved for those patients in whom improvement is not being obtained, especially if pain (or) head ache are severe. The sinus is punctured under local anaesthesia and drained out.

CHRONIC SINUSITIS:**TREATMENT:**

Principle in the treatment of chronic para nasal sinus infection should be,

1. To encourage ciliary activity.
2. Aeration of the sinus cavity.
3. Adequate drainage.

Treatment is divided into,

A. Conservative Treatment.

B. Surgical Treatment.

A. CONSERVATIVE TREATMENT:

a. Aggravating factors:

such as dust, alcohol and tobacco should be avoided. Dry climate holiday, if possible is helpful.

b. Nutritious diet and regular diet habits are helpful.

c. Dental treatment. If various tooth (or) other sepsis.

d. Nasal decongestants and anti histamines.

help to reduce oedema and open up sinus ostium. 1% Ephedrine in saline is the ideal decongestant. This helps ciliary activity.

e. Irrigation of the nose:

with normal saline often helps.

f. Displacement theory of proetz:

with normal saline often helps.

g. Control of infection:

Antibiotics are usually ineffective, but a course of broad-spectrum antibiotic has to be given (according to sensitivity) in acute exacerbations and following sinus drainage.

h. Short wave diathermy. May give temporary relief but otherwise disappointing result.

B. SURGICAL TREATMENT:

1. Eradication of sinus pathology:

In cases where there is collection of pus in sinus cavity.

2. Sinus puncture and lavage:

helps in removal of pus from sinus cavity and the procedure has to be repeated.

b. Radical Surgery:

If above method fails, then sinus wall has to be opened up and thickened polypoidal lining mucosa has to be removed.

2. Removal of nasal obstruction:

- a. Correction of septal deviation.
- b. Removal of nasal polyps.
- c. Diathermy of the inferior turbinate.

SPECIAL FEATURES AND TREATMENT OF INDIVIDUAL SINUSES:

Chronic Maxillary Sinusitis:

Diagnosis:

1. Pus in the middle meatus.
2. The postural test:

Middle meatus is first cleared carefully of pus. If pus reappears quickly, it is from frontal sinus. If pus does not reappear then the head is bent sideways opposite to the sinus involved. In case of maxillary sinus suppuration, pus will reappear in middle meatus as the maxillary ostium becomes dependent.

3. Transillumination Test: May help.
4. Radiology: is most helpful. Shows opacity of the maxillary sinus.
5. Proof puncture: will show evidence of pus.

TREATMENT:

1. Same as mentioned in chronic sinusitis.

2. Antral puncture is performed through inferior meatus and maxillary sinus is washed out. Repeated wash-out is often necessary.

3. Intra-nasal antrostomy:

If repeated antral puncture shows evidence of pus, then permanent opening is made on the medial wall of maxillary antrum at the anterior part of inferior meatus. This is helpful in early reversible cases.

4. Even if this fails to clear up infection, then "Caldwell-Luc" operation is performed through sublabial approach and the diseased antral mucosa is removed.

CHRONIC FRONTAL SINUSITIS:

1. Pus in anterior part of the middle meatus. Pus is cleaned and head is kept erect. If pus reappears within few minutes, then it is coming from the frontonasal duct.
2. X-Ray is diagnostic.
3. Transillumination Test: may help.

TREATMENT:

1. General Treatment: Same as in chronic sinusitis.
2. Special Surgical Treatment
 - a) Frontal Sinus Catheterisation and wash-out, is not performed commonly now-a-days.
 - b) Howarth's operation: if performed, is conservative treatment fails.
 - c) Obliteration operation of the frontal sinuses is not practiced now-a-days.

CHRONIC ETHMOIDAL SINUSITIS:

This is usually associated with ethmoidal polyp formation.

TREATMENT:

1. General Treatment is same as in chronic sinusitis.
2. Special surgical treatment.
 - a) Intra-nasal ethmoidectomy.
 - b) External ethmoidectomy.
 - c) Transantral ethmoidectomy.

3. FESS:

After done an uncinectomy, a surgery is done to widen the ostio and drain thick secretions. It is very essential in severe acute sinusitis, particularly when ethmoid, frontal (or) Sphenoid disease fails to respond to initial intravenous therapy.

CHRONIC BACTERIAL SINUSITIS:

This condition is caused by dysfunction of the muco ciliary blanket, usually a result of repeated past infections, rather than persistence of bacterial infection. Patient complains of constant sinus pressure, nasal congestion and post nasal drainage (thick and green), especially in the morning. A temperature of $\geq 38^{\circ}\text{C}$ (100.5°F) is rare and may signify a superimposed acute bacterial infection.

DIAGNOSIS:

Sinus CT should be used in all cases of chronic sinusitis to define the extend of disease and to help exclude other diagnosis such as an obstructing tumour or a granulomatous process.

FUNGAL SINUSITIS:

Fungal sinusitis is catagorized as non-invasive or invasive.

Non invasive disease is chronic and occurs in immunocompetent host. It has two forms that are analogous to the non-invasive pulmonary diseases of aspergilloma and allergic bronchopulmonary aspergillosis.

A fungal ball (aspergilloma) inside a sinus may cause symptoms of obstruction without invading the mucosa. Typically only one sinus is affected and patients have unilateral symptoms and opacification of only that sinus on CT.

On Histopathologic examination the thick sinus mucosa contain numerous Charcot-Leyden crystals, eosinophils and rare fungal hyphae.

Invasive fungal sinusitis presents differently in immunocompetent and immunocompromised hosts.

Mortality from fungal sinusitis is high, even among immunocompetent hosts.

ANATOMY OF NOSE

THE- NOSE:

The nose is externally pyramidal shaped.

BOUNDARIES:

It has a roof, floor, medial wall and lateral wall

ROOF:

1. It is a narrow area. The anterior part of the roof is formed by the frontal bones.
2. The middle roof is formed by Cribriform plate of the ethmoid bone.
3. The posterior part of the roof is formed by the body of the sphenoid bone.

FLOOR:

1. Palatine process of the maxilla.
2. Horizontal process of the palatine bones.

THE MEDIAL WALL OF THE NOSE:

(Septum of the nose)

The septum divides the nasal cavity into right and left cavities. The septum may (or) may not be situated in the midline. The septum is formed by bones and cartilages and covered by the mucoperiosteum and skin.

COMPONENTS OF THE SEPTUM:

- ❖ Posteriorly by the perpendicular plate of the ethmoid bone.
- ❖ Posteriorly by the Vomer bone.
- ❖ Anteriorly by septal cartilage.

ACCESSORY COMPONENTS:

1. Rostrum of the sphenoid bone.
2. Frontal bone.

3. Nasal bone.
4. Anterior nasal spine of the Maxillae.
5. Palatine bone.
6. The medial crust of the greater alar cartilage.

THE NASAL SEPTUM MAY BE DIVIDED INTO FOLLOWING PARTS:

1. Cuticular part is situated antero inferiorly.
2. Cartilagenous part is situated in the middle.
3. Bony part is situated postero superiorly.

BORDERS:

It has 4 borders namely,

1. Anterior border.
2. Posterior border.
3. Inferior border.
4. Superior border.

SURFACES:

It has 2 surfaces namely,

- a. Right surface.
- b. Left surface.

The surfaces of the septum may show bony spaces. Along the anterior inferior part of the septum, there may be an opening for the vomero nasal organ of jacobson may be situated.

BLOOD SUPPLY:

1. Long spheno palatine artery.
2. Greater palatine artery.
3. Superior tabial branch of the facial artery.

4. Anterior ethmoidal artery.

In the anterior inferior quadrant of the nasal septum these arteries communicate freely to form the Kiesselbach's area (little area). Injury to this area causes epistaxis.

VENOUS DRAINAGE:

1. Facial Vein.
2. Pterygoid Venous plexus.

LYMPHATIC DRAINAGE:

1. Submandibular lymph nodes.
2. Retropharyngeal lymph nodes.
3. Anterior Superior group of deep cervical nodes.

NERVE SUPPLY:

1. Olfactory nerves carry the sense of smell from the upper part of the septum.
2. Nasopalatine nerve.
3. Anterior Ethmoidal nerve.
4. Anterior Superior alveolar nerve.

AUTONOMIC NERVE SUPPLY:

Vidian's nerve through the sphenopalatine ganglion.

THE LATERAL WALL OF THE NOSE.

This is an irregular space bounded by the nasal surface of the many bones. The bones forming the lateral wall of the nose are arranged into 3 zones.

The anterior zone is formed by,

1. Maxilla.
2. Nasal bone.

The middle zone is formed by,

1. Ethmoid bone.
2. Maxilla.
3. Conchae bone.

The posterior zone is formed by

1. Perpendicular plate of the palatine bone.
2. Medial pterygoid bone.

The lateral wall is irregular because it has three bony elevations called conchae.

The space between the adjacent conchae is known as the meatus.

The lateral wall is lined by mucous membrane called Mucoperiosteum.

The superior and middle conchae are formed by the labyrinthine part of the ethmoid bone.

The inferior conchae is formed by the conchae bone or turbinate bone. The inferior conchae articulates anteriorly with the maxilla and posteriorly with the perpendicular plate of the palatine bone. The lateral wall is divided into three areas.

1. Vestibule.
2. Atrium of the middle meatus.
3. Area of conchae and meatuses.

THE VESTIBULE:

This area is lined by the skin. So it is provided with hairs called Vibrissae.

The vibrissae arising from the anterior wall of the vestibule are directed backwards and vibrissae from the posterior wall are directed forwards. These vibrissae forming a sieve at the nasal entry. The vestibule is limited above by the limen nasi.

ATRIUM OF THE MIDDLE MEATUS:

This depression is situated above the vestibule but in front of the middle meatus. It is limited superiorly by a ridge known as agger nasi. The agger nasi is developed in lower mammals.

AREA OF CONCHAE AND MEATUSES:

There are 3 conchae and 4 meatuses. The conchae are,

1. Superior conchae.
2. Middle conchae.
3. Inferior conchae.

The meatuses are,

1. Spheno ethmoidal recess.
2. Superior meatus.
3. Middle meatus.
4. Inferior meatus.

The spheno ethmoidal recess is situated between the superior conchae and body of the sphenoid bone. In to this space the sphenoid air sinus is opening.

Sometimes within the spheno ethmoidal recess the highest conchae may be present. This conchae divides the recess into superior meatus and spheno ethmoidal recess.

THE SUPERIOR MEATUS:

The superior meatus is the narrowest among the meatuses. It is situated between the superior and middle conchae. The posterior ethmoidal air cells opens into space.

THE MIDDLE MEATUS:

This is the space between the middle conchae and inferior conchae. Anteriorly the middle meatus opens into the atrium of the middle meatus. The bulle ethmoidalis is an elevation caused by the middle ethmoidal air cells found in the meatus.

Below the bulle ethmoidalis there is a semilunar shaped gutter called hiatus semilunaris is situated.

The hiatus semilunaris is bounded below by the uncinat process of ethmoid bone. Into the anterior part of the hiatus, ethmoidal infundibulum opens. This opening is a common passage for the frontal air sinus and anterior ethmoidal air cells.

On the surface of the bulle ethmoidalis the middle ethmoidal air cells are opening.

The posterior part of the hiatus semilunaris receives the openings of the maxillary air sinus. There may be more than one opening for the maxillary air sinus.

In the anterior part of the inferior meatus, the naso lacrimal duct opens. This opening is guarded by the Hasner's valve. This valve doesnot permit entry of air into the naso lacrimal duct.

BLOOD SUPPLY TO THE LATERAL WALL OF THE NOSE:

The lateral wall of the nose is divided into 4 quadrants. Each quadrant has separate blood supply.

ANTERIO SUPERIOR QUADRANT:

Anterior ethmoidal artery.

Posterior ethmoidal artery.

Facial artery.

POSTERIO SUPERIOR QUADRANT:

Spheno palatine artery(Maxillary artery).

ANTERIO INFERIOR QUADRANT:

Facial Artery.

Perforating branches of greater palatine artery.

POSTERIO INFERIOR QUADRANT:

Greater palatine artery and its branches.

VENOUS DRAINAGE:

Anterior part drains into exterior facial vein.

Middle part drains into pterygoid venous plexus.

Posterior part drains into pharyngeal Venous plexus.

LYMPHATIC DRAINAGE:

Anterior part drains into sub mandibular lymph nodes.

Posterior part drains into retero pharyngeal lymph nodes.

NERVE SUPPLY:

The sense of smell from the lateral wall is carried by the olfactory nerves.

PARASYMPATHETIC SUPPLY:

Vidians nerve(Nerve of the pterygoid canal).

SENSORY SUPPLY:

ANTERO SUPERIOR QUADRANT:

Anterior ethmoidal nerve.

POSTERO SUPERIOR QUADRANT:

Spheno palatine branches of spheno palatine ganglion.

ANTERIO INFERIOR QUADRANT:

Anterior Superior alveolar nerve.

POSTERIO INFERIOR QUADRANT:

Greater palatine nerve(Spheno palatine ganglion).

HISTOLOGY OF THE NASAL CAVITY:

The mucous membrane covering the respiratory portion of nasal cavity as a ciliated columnar epithelium with interspersed Goblets cells. The underlying lamina propria is rich in mucous glands and blood vessels.

The para nasal sinus are lined by ciliated columnar epithelium, but they lac vascular plexus. They drain through small ostia into the nasal cavity. This ostia can be obstructed by only moderate mucosal swelling.(eg. Oedema caused by inflammation) tumour (or) foreign body. The anatomic relationship favour certain roots of spread of disease and therefore play an important role in the development of complication.

ANATOMY OF PARA NASAL SINUSES**PARA NASAL SINUSES:**

The para nasal sinuses are air containing bony spaces around the nasal cavity and lined by the mucous membrane of ciliated columnar epithelium. They develop as mucous diverticula of the nasal cavity and invade the neighbouring bones at the expense of the diploic tissue. The sinuses are arranged in pairs and are names as follows,

- ❖ Frontal
- ❖ Ethmoidal
- ❖ Sphenoidal
- ❖ Maxillary.

They are divided into two groups. Anterior group comprises frontal air sinus, the maxillary air sinus and the anterior ethmoidal air cells.

The posterior group comprises the posterior ethmoidal air cells and the sphenoidal sinus.

The anterior group of sinuses drains into the middle meatus and the posterior group drains into the superior meatus and the sphenoidal recess. The sinuses are present in rudimentary form at birth, except the frontal sinuses which start development two (or) three years after birth. They enlarge rapidly during the ages of 7-8 yrs.(time of eruption of permanent teeth) and then after puberty.

FUNCTIONS OF PARA NASAL SINUSES:

The exact function is not known Probably they may have following functions.

1. Warming and moistening of inspired air may be partly done by the large mucosal surfaces of these adjacent sinuses.
2. The air filled sinus cavities probably add resonance for the production of sounds.
3. The temperature buffers. It is regarded that these chambers probably protect contents of orbits and cranial fossae from the intranasal temperature variations.
4. Probably sinus formation in the cranial bones helps in reducing the weight of the cranial bones.
5. The sinus mucosa may act as a donor site for reconstructive procedures Eg. for Subglottic stenosis and implantation of maxillary sinus mucosa into the nasal cavity in atrophic rhinitis.
6. Protection of the orbit by acting as a shock buffers.

7. Facial growth occurs rapidly after the formation of the sinuses.

FRONTAL SINUSES:

They are two in number and are contained within the tables of the squamous part of the frontal bone, deep to the medial end supraciliary arches. It extends upwards above the medial end of eye brow and backwards into the medial part of the root of the orbit. Each sinus is triangular in shape. Absent at birth, fairly developed at 7th to 8th year reach full size only after puberty

Capacity:

Each sinus has a capacity of about **7cc**.

MEASUREMENTS:

Depth	-	2.5cm
Height	-	3cm
Breadth	-	2.5cm

COMMUNICATIONS:

It opens into the middle meatus of Nose at the anterior end of the hiatus semilunari's either through the infundibulum (or) through the fronto nasal duct. The right and left sinuses are usually unequal in size separated by a thin plate of bone. The sinuses are better developed in males than in females. The frontal sinus is lined with columnar epithelium.

Blood Supply	-	Supra Orbital Artery
Lymphatic drainage	-	Sub.mandibular nodes
Nerve Supply	-	Supra orbital nerve
Venous drainage	-	into the anastomotic vein between the supra orbital and superiorophthalmic veins in the supra orbital notch

MAXILLARY SINUSES:

It lies in the body of maxilla and is the largest of all the para nasal sinuses. It is pyramidal in shape with its a base directed medially towards the lateral wall of the nose and the apex directed laterally in the Zygomatic process of maxille. Average measurements of each sinus are as follows,

Vertical (opposite 1 st molar teeth)	-	3.75cm
Transverse	-	2.5cm
Antero - Posterior	-	3.25cm
Capacity	-	About 9.5 to 20cc

The fully developed maxillary air sinus should extend from the first premolar to the third molar teeth. The sinus reaches upto the floor of the orbit and thus occupies practically the whole body of the maxillary bone.

BOUNDARIES:

Each sinus is roughly pyramidal in shape and presents the following boundaries.

APEX:

Zygomatic process of maxilla

BASE:

By the nasal surface of the body of maxilla, in which lies in the recent state the opening of the maxillary sinus close to its roof. In the disarticulated skull the base presents a large opening, the maxillary hiatus which is reduced in size by the following bones.

- ❖ Uncinate process of ethmoid bone from above
- ❖ Ethmoidal process of inferior nasal conchae.
- ❖ Descending process of lacrimal bone from the front

- ❖ Perpendicular plate of palatine bone from behind
- ❖ The macerated skull two openings are present. One above on the other below the uncinat process in recent state usually the lower opening is closed by a plug of mucous membrane.

ROOF:

It is formed by the floor of orbit and is transversed by the infra orbital vessels and nerve in a bony canal.

FLOOR:

It is formed by the alveolar process of maxilla. The floor is marked by several conical elevations produced by the roots of the upper molar and premolar teeth. The roots may even penetrate the bony floor to lie beneath the mucous lining, so that the infection of maxillary air sinus in apical tooth abscess becomes obvious. Extraction of poorly covered tooth can result in an abnormal communication between mouth and antrum known as Oro-antral fistula.

ANTERIOR WALL:

Related to the infra orbital plexus of vessels and nerves and the origins of muscles of upper lip. Within the wall anterior superior alveolar vessels and nerves traverse in a bony canal, the canalis sinuses.

POSTERIOR WALL:

It is pierced by posterior superior alveolar vessels and nerves and forms the anterior boundary of infra temporal and pterygo palatine fosses.

COMMUNICATIONS:

It opens into the middle meatus of the nose in the lower part of the hiatus semilunaris and the opening lies just below the bulla ethmoidalis. The openings are near the roof that the floor of the sinus. So the opening is located much higher from the floor of the sinus in disadvantageous position for natural drainage.

The maxillary air sinus is lined by ciliated columnar epithelium. It is richly provided with glands which are situated chiefly around the ostium.

BLOOD SUPPLY:

From the anterior middle and posterior Superior alveolar vessels of maxillary.

LYMPHATIC DRAINAGE:

Sub. mandibular nodes

NERVE SUPPLY:

From the anterior middle and posterior superior alveolar nerves, branches of maxillary and infra orbital nerves.

VENOUS DRAINAGE:

Facial vein and pterygoid plexus of veins.

ETHMOIDAL SINUS

There are numerous small inter communicating spaces which lie within the labyrinth of the ethmoidal bone. They are completed by the frontal, Maxillary, lacrimal, Sphenoidal and palatine bones. They lie between the upper part of the nasal cavity and the orbits and are separated from the orbits by extremely thin orbital plates of ethmoids. The sinuses are divided into anterior, middle and posterior groups.

ANTERIOR SINUSES:

The anterior ethmoidal sinus is made up of upto 11 air cells. It opens into the anterior part of the hiatus semilunaris of the nose.

MIDDLE SINUSES:

The middle group generally comprises three cavities which opens into middle meatus by one of more orifices on (or) above the ethmoidal bulla.

POSTERIOR SINUSES:

The posterior group varies from one to seven in number and usually opens by one orifice into superior meatus of the nose.

BLOOD SUPPLY:

Anterior and posterior ethmoidal branches of Ophthalmic Artery.

LYMPHATIC DRAINAGE:

Anterior and middle groups of sinuses drained into submandibular lymphnodes.

Posterior group drains into retropharyngeal lymph nodes.

SPHENOIDAL SINUSES:

These paired sinuses are located within the body of sphenoid bone above and behind the nasal cavity. Each sinus is somewhat asymmetrical and presents the following average measurements.

- Vertical - 2.2cm
- Transverse breadth - 2cm
- Depth - 2.2cm.

EXTENDS:

Posteriorly it may extend upto the anterior margin of foramen magnum. Anteriorly it may encroach the roof of the orbit laterally extends upto pterygoid canal.

RELATIONS:

ABOVE: Optic chiasma and Hypophysis cerebri.

BELOW:- Roof of the nasopharynx.

On each side cavernous sinus and internal carotid artery.

Behind pons and medulla oblongata separated by the basilar venous plexus, in front of the sphenoidal recess.

COMMUNICATIONS:

Each sinus opens into the sphenoidal recess and hence into the superior meatus of nose.

BLOOD SUPPLY:

Posterior ethmoidal vessels.

NERVE SUPPLY:

Posterior ethmoidal nerve and orbital branches of pterygo palatine ganglion.

LYMPHATIC DRAINAGE:

Retropharyngeal nodes.

PHYSIOLOGY OF THE NOSE AND PARA NASAL SINUSES:

The nose forms the gateway of the respiratory system and serves the following important functions.

1. RESPIRATORY PASSAGE:

The inspired air passes upwards in a narrow stream medial to the middle turbinate and then downwards and backwards in the form of an arc and thus respiratory air currents are restricted to the central part of the nasal chambers.

2.FILTRATION:

The nose serves as an effective filter for the inspired air.

- a) Vibrissae (Nasal hair) in the nasal vestibule arrests large dust particles of inspired air.
- b) The fine particulate matter and bacteria are deposited on the mucous blanket which covers the nasal mucosa. The mucous contains various enzymes like lysozymes having anti bacterial properties.
- c) The mucous with the particulate matter is carried by the ciliary movements posteriorly to the oropharynx to be swallowed.

3. AIR CONDITIONING AND HUMIDIFICATION:

The highly vascular mucosa of the nose maintains constancy of temperature of air and thus prevents the delicate mucosa of the respiratory tract from any damage due to temperature variations. The humidified air is necessary for proper functioning and integrity of the ciliated epithelium.

4.VOCAL RESONANCE:

The nose and para nasal sinuses serve as vocal resonators and nasal passages are concerned with production of nasal consonants like M and N. Thus obstructions of nasopharynx and nose alter the tone of voice.

5. NASAL REFLEX FUNCTION:

The respective fields of various reflexes lie in the nose. Those include sneezing and naso-pulmonary, naso - bronchia and olfactory reflexus. These protect the mucosa and regulate the vaso motor for tone of the blood vessels.

6. The nasal cavity serves as an outlet for lacrimal and sinus secretions.

7. AERATION:

Air in the nasal cavity helps in aeration of the para nasal sinuses and the middle ear through eustachian tube.

8. OLFACTORY:

This function is less developed in human beings. This sensation plays the most important role in behaviours and reflex responses of lower animals.

SENSE OF SMELL

OLFACTORY NERVE:

These are the sensory nerves of smell. They have their origins in special chemoreceptor nerve cells in the mucous membrane of the roof of the nose above the superior nasal conchae. On each side of the nasal septum nerve fibres from the cell bodies pass through the cribriform plate of the ethmoid bone to the olfactory bulb where inter connections and synapses occur. From the bulb, bundles of nerve fibres form the olfactory tracts which pass backwards to the olfactory area in the temporal lobe of the cerebral cortex in each hemisphere where the impulses are interpreted and Odour perceived.

PHYSIOLOGY OF SMELL:

The sense of smell in human beings is generally less acute than in other animals. All odorous materials give off chemical particles which are carried into

the nose with the inhaled air and stimulate the nerve cells of the olfactory region when dissolved in mucous.

The air entering the nose is heated and convection currents can eddies of inspired air from the main stream to the roof of the nose. "Sniffing" concentrates more particles, more quickly in the roof of the nose.

This increases the number of olfactory receptor cells, stimulated and thus the perception of the smell. The sense of smell may affect the appetite. If the odours are pleasant, the appetite may improve and viseversa. The sense of smell may create long lasting memories,especially to distinctive odours.

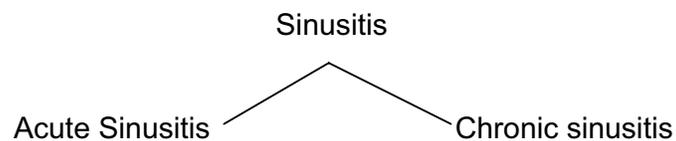
Adaptation-when an individual is continuously exposed to an odour, perception of the odour quickly decides and eventually ceases. This loss of perception only affect that specific odour and adaptation. Probably occurs both in the cerebrum and in the nerve endings in the nose.

SINUSITIS:

DEFINITION:

Sinusitis is an inflammation of the mucosal lining of sinus cavity. Inflammation may be suppurative or non suppurative.

CLASSIFICATION:



ACUTE SINSUSITIS:

DEFINITION:

It is an acute inflammation of the mucosa of paranasal sinuses. If inflammatory process occurs in more than one sinus, it is called multi sinusitis. If all para nasal sinuses are involved it is called Pan Sinusitis.

AETIOLOGY OF SINUSITIS:

1. DENTAL SEPSIS:

Eg. Periapical abscess, periodontal abscess etc. (or) dental extraction particularly in connection with maxillary sinus, where roots of teeth project into the sinus.

2. TRAUMATIC:

In fracture of sinus, infection may spread directly (or) by infected blood clots.

3. SWIMMING AND DIVING:

Directly spread through the ostium.

4. Secondary bacterial infection from acute rhinitis may spread to sinuses through ostium or sub-mucosal lymphatics.

5. INFECTIONS:

a. Bacterial infection:

Streptococci

Staphylococci

Pneumococci

Hemophilus influenzae

Escherichia coli

Micrococcus Cataerhalis.

Bacillus pteiffer and B.

b. Viral infection:

Rhinovirus

Para influenza I and II

Echo 28

Coxsacki A 21

Respiratory Syncytial Virus.

c. Fungal infections:

Para coccidiomycosis

Mucormycosis

Rhinosporidiosis

Rhinophycomycosis

Aspergillosis

Actinomycosis.

6. PREDISPOSING FACTIORS:

a. Local:

Foreign body

Nasal Allergy

Enlarged adenoids

Deviation of nasal septum etc.

b. General:

Low general health

Chilling

Environmental pollution

Prolonged Exposure to cold

Associated chest infection

PATHOLOGY OF SINUSITIS:

The mucosa of sinus shows chronic inflammatory changes. The cilia get damaged by the infection with resultant inadequate drainage of the sinus cavity, particularly the maxillary sinus where the ostium is situated high up in the medial

wall. The retained secretions thereby lead to reinfection. Periphlebitis and perilymphangitis, may occur, leading to oedema and polyp formation, so called hypertrophic (or) Polypoidal sinusitis.

Sometimes there occurs metaplasia of the ciliated columnar epithelium to stratified squamous type with interspread Papillary hyperplastic epithelial and inflammatory cells producing a picture of papillary hypertropic sinusitis. Occasionally the chronic inflammatory process may induce atrophic changes in the sinus mucosa with increase in sub mucosal fibrous tissue. (Atropic Sinusitis).

CLINICAL FEATURES:

Patient usually gives history of cold. After 3 to 4 days when symptoms should have diminished, there is exacerbation of symptoms.

1. Nasal obstruction becomes worse, watery rhinorrhoea is changed to thick muco-purulent secretion. Occasionally there may be epistaxis or blood stained nasal discharge.
2. Head ache and sense of heaviness present over the head.
3. Pain over infected sinus-stabbing (or) aching in character. This is made worse by bending (or) coughing.
4. Rise temperature, malaise and depression.
5. Unpleasant taste with post-nasal discharge is often present.
6. Tenderness over the frontal or the maxillary sinus and overlying soft tissue may be oedematous at times.

INFECTION OF INDIVIDUAL SINUSES:

FRONTAL SINUSITIS:

1. Pain occurring in frontal Sinusitis is usually in the frontal region. There may be periorbital pain, pain is usually located to forehead.

2. Frontal headache, in early stage is called “vaccum frontal head ache” due to blockage of the frontonasal duct and absorbtion of air.
3. The head ache usually severe and periodic, present on walking and increases until mid day and then subsides gradually. Use of eyes may be painful.
4. There may be tenderness on the floor of frontal sinus. In some cases there may be oedema and puffiness of the upper lid.

ETHMOIDEL SINUSITIS:

1. Head ache: It is usually located between and behind the eye regions (or) radiates to the temporal eye.
2. Nasal obstruction is frequent with loss of sense of smell.
3. There may be oedema over the nasal bones.
4. The middle turbinate shows oedematous inflammed mucous membrane.

SPHENOIDAL SINUSITIS:

1. Head ache: Usually located in the occipital area of the head. The pain may be referred from the occipital region of the mastoid area.
2. The purulent post nasal discharge is a prominent feature of acute sphenoiditis.
3. Vertigo may be present.

MAXILLARY SINUSITIS:

It is the commonest of all sinus infection. Ostium of the maxillary sinus is situated high up in the medial wall which is not advantageous for self drainage and easily blocks, and predisposes to infections. Infection is usually from the nose (or) dental sepsis of upper jaw. The roots of molar teeth lie close to the floor of the maxillary antrum.

CLINICAL FEATURES OF MAXILLARY SINUSITIS:

1. PAIN:

The symptoms are variable and may be general (or) localized to the ear, nose and throat. The pain is variable mild to severe. It may be present over the sinus (or) along the upper molar and premolar (or) referred to frontal area, temple (or) above the ear. Pain is mainly due to oedema of the ostium producing blockage of the sinus and pressure.

2.Nasal discharge:

The patient frequently complains of excess nasal discharge which could be mucoid, mucopurulent (or) purulent.

Nasal discharge is very foul smelling in cases of sinusitis of dental origin. Pus may also be found on hawking.

3. Post nasal Drip:

Excessive production of post nasal discharge is a common symptom which causes irritation and compels the patient to clear his throat frequently.

4. There is tenderness over the cheek. Swelling of the alveolar margin and the lower part of cheek may be seen in cases of dental sepsis. Oedema over infra orbital region is present in some cases.

5. Nasal obstruction:

It may be the result of an underlying obstructive pathology of the nose like a deviated septum. Polyposis (or) hypertrophied turbinates (or) because of chronic turgescence of the nasal mucosa.

6. Sore throat:

Inflammation of air ways due to inflammatory mediators like brady kinin cause smooth muscle contraction resulting in throat pain, hoarseness of voice, excessive salivation and pharyngitis.

7. Facial pain (or) Discomfort:

Vague discomfort present all over the face.

8. Abnormalities of smell:

The patient may complain of diminished acuity of smell (Hyposmia). He may complain of unpleasant odour (cacosmia) (or) may have distortion of smell perception (Parosmia)

9. Epistaxis:

Inflammatory hyperaemia in the nose may result the epistaxis but this is uncommon.

10. The general symptoms of sinusitis include a sense of tiredness, low grade fever and feeling of being unwell. Chronic sinusitis may produce effects on other systems like gastro intestinal upsets and chronic bronchitis.

ETIOLOGICAL FACTORS:

1. Deviated nasal septum
2. Nasal polyps
3. Facial Trauma
4. Allergens
5. Extension of odontogenic infections.
6. Nasocomical Sinusitis: Prolonged nasotracheal (or) Naso gastric intubation Associated.
7. The most common organisms involved include

1. Haemophilus influenzae
2. Streptococcus Pneumoniae
3. Streptococcus pyogenes.
4. Alpha haemolytic streptococci.

INVESTIGATIONS:

1. Radiology of Para nasal Sinus:

It is the most sensitive and specific test. Shows haziness of the affected sinus or all sinuses. In cases of empyema fluid can be seen in the maxillary sinus.

2.C.T.SCAN:

When indicated is even more sensitive in detecting sinusitis.

3. Transillumination Test is helpful in maxillary and frontal sinusitis.

4. Anterior rhinoscopy:

The nasal mucosa is congested and there may be a trickle of pus under the middle turbinate and in the post-nasal space.

5. Nasal swab culture.

6. Serum immunoglobulins - IgG., IgA, IgM, Subclasses.

7. Antibody titres

8. Delayed hypersensitivity tests.

9. Direct sinus aspiration is the only procedure that can provide accurate information concerning aetiology.

Complications of sinusitis:

The paranasal sinuses are situated close to the eyes, brain and nose, and the infection can easily spread from sinuses to orbit and intracranial cavity giving rise to serious complications.

Nasal complications:

- 1) Chronic rhinitis
- 2) Secondary atrophic rhinitis
- 3) Chronic hypertrophic rhinitis
- 4) Nasal polyposis.

Orbital complications:

1. Orbital cellulitis
2. Orbital abscess
3. Retrobulbar neuritis
4. Superior orbital fissure syndrome
5. Orbital apex syndrome.

Pharyngeal and Laryngeal complications:

1. Lateral wall pharyngitis
2. Granular pharyngitis
3. Pharyngo Laryngitis
4. Tonsillitis.

Ear Complications:

1. Eustachian catarrh and Middle ear effusion
2. Chronic suppurative otitis media.

Intra ear complications:

1. Meningitis
2. Encephalitis
3. Extra dural abscess
4. Sub.dural abscess.
5. Frontal abscess of brain

6. Cavernous sinus thrombosis.

Bony complications:

Osteomyelitis of facial bones.

Miscellaneous:

Mucoceles

Pyoceles

Oro antral fistule

CHRONIC SINUSITIS:

Definition:

This is chronic inflammatory process affecting mucosa of various groups of para nasal sinuses. The recurrent attacks of acute sinusitis lead to chronic sinusitis.

Aetiology:

1. Nasal obstruction leads to chronic sinus infection (eg),

a) Deviated nasal septum

b) Oedematous turbinates

c) Polyps

2. Recurrent attacks of acute sinusitis and upper and lower respiratory infection.

3. Chronic dental sepsis and also associated with lower respiratory infection.

4. Atmospheric pollution:

Damp environment and Poor nutrition also leads to chronic sinusitis

5. Inadequate aeration of the sinuses due to allergy and narrowing of the sinus ostium from infection.

Clinical features:

1. Nasal obstruction due to oedema of the turbinates and thick mucous tenacious secretions.
2. Sinus infection may set up a chronic rhinitis with nasal obstruction resulting from hypertrophy of the nasal mucosa and turbinates
3. Pain is not a typical feature, but dullache may be present over the sinus concerned.
4. Head ache may be present certain periodicity increasing after rising in the morning, but gradually decreasing as the day goes on or vice versa.
5. Excess nasal discharge secretions usually frank mucosa and pus are discharged.
6. Epistaxis results from the inflammatory vasodilation in the nose.

7. Disturbance of olfaction:

Abnormalities of smell are common in chronic sinusitis. Some times patient complains of foul smell (or) poor sense of smell and taste. There may be carcosmia (Unpleasant smell) (or) hyposmia and parosmia in patients with underlying allergic rhinitis.

8. General symptoms include low grade, fever, lassitude, mental apathy and depression may be present.
9. Inflammation and swelling of the Eustachian orifice. Occasionally this may turn into acute otitis media.
10. Pharyngitis may be main symptom and tonsils may become infected.

INVESTIGATIONS :

1. RADIOLOGICAL EXAMINATION of para nasal sinuses shows some of the following features,

- a. Mucosal thickening of the lining mucosa.
- b. Opacity (or) Uniform haziness of the maxillary sinus.
- c. Polypoid hypertrophy of lining mucosa
- d. Osteitis (or) Osteosclerosis.

2. ANTERIOR RHINOSCOPY:

will reveal dull colour of nasal mucosa. Trickle of pus is seen under the middle meatus, if the anterior group of sinuses are involved. The anterior end of the middle turbinate may be oedematous and turgid. In such case application of 4% Xylocaine will reduce the swelling and trickle of pus will be seen better.

3. POSTERIOR RHINOSCOPY:

Will show pus in the middle meatus in maxillary sinusitis and in the sphenoidal recess in sphenoidal sinusitis.

4. TRANSILLUMINATION TEST:

Is seldom practised now-a-days.

5. NASAL SWAB

Shows increased eosinophil count in allergy variety, bacteriology shows Streptococcus commonly and also pneumococci.

6. SINOSCOPY:

Fibre-optic sinuscope is introduced in maxillary cavity through antrostomy and detailed pathology seen.

7. CT-SCAN: COMPUTED TOMOGRAPHY.

Computed Tomography is much more sensitive than other routine radiography, particularly for ethmoid and sphenoid disease. It should be reserved for complicated cases and for cases in hospitalized patients however. In light of

the recent finding that sinus CT shows reversible acute changes in patients with common cold, it is apparent that routine early use of CT would lead to over diagnosis of bacterial sinusitis.

8. MRI: MAGNETIC RESONANCE IMAGE:

It is very useful diagnostic method, to rule out a drainable orbital abscess in the sinuses.

TREATMENT:

ACUTE SINUSITIS:

The treatment can be discussed in three headings. They are Prophylactic treatment, Medical treatment and Surgical treatment.

4. PROPHYLACTIC TREATMENT:

1. Prevention of colds by general treatment.

a. Good Ventilation.

b. Proper humidity.

c. Inherent resistance produced by a healthy life and good mixed diet with sufficient vitamins A, C and D.

d. Flying and swimming with a cold should be avoided.

2. VACCINES:

They are injected sub-cutaneously or intra dermally, taken orally or applied locally to the nasal mucous membrane. There has been decrease in interest over the last decade regarding the use of vaccines.

B. MEDICAL TREATMENT:

1. To control infection.

2. To encourage opening up of the sinus ostium.

3. Symptomatic relief and general treatment.

CONTROL OF INFECTION:

by antibiotics.

OPENING UP OF SINUS OSTIUM:

- a. Nasal congestion. Helps in drainage of sinuses.
- b. Steam inhalation.
- c. Anti histamine administration is helpful.

SYMPTOMATIC RELIEF AND GENERAL TREATMENT:

- a) Rest - in bed in a warm, well ventilated room.
- b) Analgesics - helps to relieve the pain.
- c) Local heat - by radiant heat or hot water bottle used for 10 minutes relieves pain.
- d) Diet - Plenty of fluid and nourishing diet. Vitamins are added. Tobacco and alcohol should be avoided as they congest the nasal mucosa.
- e) Mouth care - Should be taken in case of dental sepsis.

C. SURGICAL TREATMENT:

Surgical treatment is occasionally needed in acute sinusitis. It is reserved for those patients in whom improvement is not being obtained, especially if pain (or) head ache are severe. The sinus is punctured under local anaesthesia and drained out.

CHRONIC SINUSITIS:**TREATMENT:**

Principle in the treatment of chronic para nasal sinus infection should be,

1. To encourage ciliary activity.
2. Aeration of the sinus cavity.
3. Adequate drainage.

Treatment is divided into,

A. Conservative Treatment.

B. Surgical Treatment.

A. CONSERVATIVE TREATMENT:

a. Aggravating factors:

such as dust, alcohol and tobacco should be avoided. Dry climate holiday, if possible is helpful.

b. Nutritious diet and regular diet habits are helpful.

c. Dental treatment. If various tooth (or) other sepsis.

d. Nasal decongestants and anti histamines.

help to reduce oedema and open up sinus ostium. 1% Ephedrine in saline is the ideal decongestant. This helps ciliary activity.

e. Irrigation of the nose:

with normal saline often helps.

f. Displacement theory of proetz:

with normal saline often helps.

g. Control of infection:

Antibiotics are usually ineffective, but a course of broad-spectrum antibiotic has to be given (according to sensitivity) in acute exacerbations and following sinus drainage.

h. Short wave diathermy. May give temporary relief but otherwise disappointing result.

B. SURGICAL TREATMENT:

1. Eradication of sinus pathology:

In cases where there is collection of pus in sinus cavity.

2. Sinus puncture and lavage:

helps in removal of pus from sinus cavity and the procedure has to be repeated.

b. Radical Surgery:

If above method fails, then sinus wall has to be opened up and thickened polypoidal lining mucosa has to be removed.

2. Removal of nasal obstruction:

- a. Correction of septal deviation.
- b. Removal of nasal polyps.
- c. Diathermy of the inferior turbinate.

SPECIAL FEATURES AND TREATMENT OF INDIVIDUAL SINUSES:

Chronic Maxillary Sinusitis:

Diagnosis:

1. Pus in the middle meatus.
2. The postural test:

Middle meatus is first cleared carefully of pus. If pus reappears quickly, it is from frontal sinus. If pus does not reappear then the head is bent sideways opposite to the sinus involved. In case of maxillary sinus suppuration, pus will reappear in middle meatus as the maxillary ostium becomes dependent.

3. Transillumination Test: May help.
4. Radiology: is most helpful. Shows opacity of the maxillary sinus.
5. Proof puncture: will show evidence of pus.

TREATMENT:

1. Same as mentioned in chronic sinusitis.

2. Antral puncture is performed through inferior meatus and maxillary sinus is washed out. Repeated wash-out is often necessary.

3. Intra-nasal antrostomy:

If repeated antral puncture shows evidence of pus, then permanent opening is made on the medial wall of maxillary antrum at the anterior part of inferior meatus. This is helpful in early reversible cases.

4. Even if this fails to clear up infection, then "caldwell-luc" operation is performed through sublabial approach and the diseased antral mucosa is removed.

CHRONIC FRONTAL SINUSITIS:

1. Pus in anterior part of the middle meatus. Pus is cleaned and head is kept erect. If pus reappears within few minutes, then it is coming from the frontonasal duct.
2. X-Ray is diagnostic.
3. Transillumination Test: may help.

TREATMENT:

1. General Treatment: Same as in chronic sinusitis.
2. Special Surgical Treatment
 - a) Frontal Sinus Catheterisation and wash-out, is not performed commonly now-a-days.
 - b) Howarth's operation: if performed, is conservative treatment fails.
 - c) Obliteration operation of the frontal sinuses is not practiced now-a -days.

CHRONIC ETHMOIDAL SINUSITIS:

This is usually associated with ethmoidal polyp formation.

TREATMENT:

1. General Treatment is same as in chronic sinusitis.
2. Special surgical treatment.
 - a) Intra-nasal ethmoidectomy.
 - b) External ethmoidectomy.
 - c) Transantral ethmoidectomy.

3. FESS:

After done an uncinectomy, a surgery is done to widen the ostio and drain thick secretions. It is very essential in severe acute sinusitis, particularly when ethmoid, frontal (or) Sphenoid disease fails to respond to initial intravenous therapy.

CHRONIC BACTERIAL SINUSITIS:

This condition is caused by dysfunction of the muco ciliary blanket, usually a result of repeated past infections, rather than persistence of bacterial infection. Patient complains of constant sinus pressure, nasal congestion and post nasal drainage (thick and green), especially in the morning. A temperature of $\geq 38^{\circ}\text{C}$ (100.5°F) is rare and may signify a superimposed acute bacterial infection.

DIAGNOSIS:

Sinus CT should be used in all cases of chronic sinusitis to define the extend of disease and to help exclude other diagnosis such as an obstructing tumour or a granulomatous process.

FUNGAL SINUSITIS:

Fungal sinusitis is catagorized as non-invasive or invasive.

Non invasive disease is chronic and occurs in immunocompetent host. It has two forms that are analogous to the non-invasive pulmonary diseases of aspergilloma and allergic bronchopulmonary aspergillosis.

A fungal ball (aspergilloma) inside a sinus may cause symptoms of obstruction without invading the mucosa. Typically only one sinus is affected and patients have unilateral symptoms and opacification of only that sinus on CT.

On Histopathologic examination the thick sinus mucosa contain numerous Charcot-Leyden crystals, eosinophils and rare fungal hyphae.

Invasive fungal sinusitis presents differently in immunocompetent and immunocompromised hosts.

Mortality from fungal sinusitis is high, even among immunocompetent hosts.

RESULTS AND OBSERVATIONS

The results were observed regarding the following criteria by clinical study on 20 inpatients and 20 outpatients.

- ❖ Sex distribution
- ❖ Age distribution
- ❖ Kaalam
- ❖ Thegi
- ❖ Gunum
- ❖ Religious distribution
- ❖ Thinai
- ❖ Paruvakaalam
- ❖ Siru pozuthu
- ❖ Occupational status
- ❖ Socio – economic status
- ❖ Diet factors
- ❖ Habits
- ❖ Aetiological factors
- ❖ Associated diseases
- ❖ Mode of onset
- ❖ Duration of illness
- ❖ Clinical manifestation
- ❖ Systemic examination
- ❖ Relevant systemic examination

- ❖ Kosam
- ❖ Mukkutram
- ❖ Disturbance in Vadha
- ❖ Disturbance in Pitha
- ❖ Disurbance in Kaba
- ❖ Seven Udarkattukal
- ❖ Envagai thervugal
- ❖ Urine analysis
- ❖ Laboratory assessment
- ❖ Radiological assessment
- ❖ Gradation of results
- ❖ Clinical assessment

1. Sex Distribution

Sex	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Male	6	30	9	45
Female	14	70	11	55

Among 20 patients 30% were males and 70% were females. Among 20 out – patients 45% were males and 55% were female.

2. Age Distribution:

Age in years	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
20 – 30	-	-	5	25
31 – 40	4	20	5	25
41 – 50	2	10	4	20
51 – 60	5	25	5	25
61 – 70	7	35	1	5
71 – 80	2	10		

Among Inpatients:-

- 20% were in the age group 31 – 40
- 10% were in the age group 41 – 50
- 25% were in the age group 51 – 60
- 35% were in the age group 61 – 70
- 10% were in the age group 71 – 80

Among 20 Outpatients:-

- 25% were in the age group 20 - 30
- 25% were in the age group 31 – 40
- 20% were in the age group 41 – 50
- 25% were in the age group 51 – 60
- 5% were in the age group 61 – 70

3. Kaalam:

Kaalam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Vaadha Kaalam (1-33 yrs)	2	10	6	30
Pitha Kaalam (34-66yrs)	16	80	14	70
Kaba kaalam (67 -100 yrs)	2	10	-	-

Among inpatients:-

10% belonged to Vadha Kaalam

80% belonged to Pitha Kaalam

10% belonged to Kaba Kaalam

Among Outpatinets:-

30% belonged to vadha Kaalam

70% belonged to Pitha kaalam

4. Thegi :

Thegi	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Vadha thegi	-	-	-	-
Pitha thegi	-	-	-	-
Kaba thegi	-	-	-	-
Thontha thegi	20	100	20	100

Among inpatients and outpatients, 100% had Thontha Thegi.

5. Gunam:

Gunam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Sathuvam	-	-	-	-
Rajogunum	20	100	20	100
Thamogunum	-	-	-	-

Among inpatients and outpatients 100% had Rajagunum

6. Religious distribution:

Religion	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Hindu	17	85	20	100
Christian	2	10	-	-
Muslim	1	5	-	-

Among inpatients:

85% were Hindu

10% were Christian

5% were Muslium

Among Outpatients:

100% were Hindu

7. Thinai :

Thinai	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Kurinji	-	-	-	-
Mullai	-	-	-	-
Marutham	20	100	20	100
Neithal	-	-	-	-
Palai	-	-	-	-

Among inpatients and outpatients 100% belonged to Marutham.

8. Sirupozhthu:

Sirupozhthu	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Vaikarai	-	-	-	-
Kalai	12	60	9	45
Pagal	-	-	-	-
Nadu pagal	-	-	-	-
Malai	8	40	11	65
Nadu Eravu	-	-	-	-

9. Paruvakaalam:

This table illustrates the incidence of disease in various seasons.

Paruvakaalam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Kaerkaalam	-	-	-	-
Koothirkaalam	3	15	15	75
Munpanikaalam	11	55	5	25
Pinpanikaalam	6	30	-	-
Elavenilkaalam	-	-	-	-
Mudhuvenkilkaalam	-	-	-	-

Among Inpatients:

15% were affected during Kothirkaalam

55% were affected during Munpanikaalam

30% were affected during Pinpanikaalam

Among Outpatients:

75% were affected during Koothirkaalam

25% were affected during Munpanikaalam

10. Gnanthiriyam:

Gnanthiriyam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Mai	-	-	-	-
Vai	-	-	-	-
Kan	5	25	2	10
Mookku	10	50	12	60
Sevi	-	-	-	-

11. Kanmanthiriyam:

Kanmanthiriyam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Kai	-	-	-	-
Kal	-	-	-	-
Vai	5	25	5	25
Eruvai	-	-	-	-
Karuvai	-	-	-	-

12. Occupational Status:

Occupation	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Servant – maid	1	5	1	5
House wife	3	15	2	10
Farmer	2	10	3	15
Traditional Medical practitioners	-	-	-	-
Retired Man	2	10	1	5
Daily Wage	2	10	1	5
Beedi worker	4	20	5	25
Student	-	-	2	10
Lorry driver	-	-	-	-
Hotel worker	1	5	-	-
Merchant	2	10	3	15
Auto mobile Workers	2	10	2	10
Unemployed	1	5	-	-
Mill workers	-	-	-	-

13. Socio – economic status:

Socio – economic status	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Rich	-	-	-	-
Middle class	6	30	7	35
Poor	14	70	13	65

Among Inpatients:

30% were middle class people

70% were economically poor

Among Outpatients:

35% were middle class people

65% were economically poor

14. Diet Factors:

Diet types	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Vegetarian	2	10	2	10
Non - vegetarian	-	-	-	-
Mixed diet	18	90	18	90

15. Habits:

Habits	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Smoker	5	25	7	35
Alcoholic	3	15	2	10
Tobacco Chewer	4	20	5	25
Tobacco inhaler	1	5	-	-

Among Inpatients:

25% were Smokers

15% were tobacco chewers

20% were Alcoholics

5% were tobacco inhaler

Among Outpatients:

35% were Smokes

10% were Alcoholics

25% were tobacco chewers

16. Aetiological factors:

Aetiological factors	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Occupation	10	50	9	45
Nasal Alleagy	5	25	6	30
Bacterial Infection	1	5	-	-
Acute Rhinitis	2	10	3	15
Traumatic	-	-	-	-
Swimming & diving	1	10	2	10

Among Inpatients:

50% had occupational aetiology

25% had nasal allegry

5% had Bacterial infection

10% had Acute Rhinitis

2% had infection due to swimming and diving

Among Outpatients:

45% had occupational aetiology

30% had nasal allergy

15% had Acute Rhinitis

10% had infection due to swimming & diving

17. Associated Diseases:

Associated diseases	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Diabetes Mellitus	5	25	6	30
Hypertension	3	15	2	10
Tuberculosis	2	10	1	5
Bronchial Asthma	5	25	6	30
PID	-		-	
Others	-		-	

Among Inpatients:

25% had Diabetes mellitus

15% had Hypertension

10% had tuberculosis

25% had Bronchial asthma

Among Outpatients:

30% had Diabetes mellitus

10% had Hypertension

5% had Tuberculosis

30% had Bronchial Asthma

18. Mode of onset:

Mode of onset	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Acute	15	75	14	70
Chronic	5	25	6	30

Among Inpatients:

75% had acute onset

25% had chronic onset

Among Outpatients:

70% had acute onset

30% had chronic onset

19. Duration of illness:

Duration of illness	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Below 1 week	7	35	10	50
8 to 15 days	3	15	3	15
16 to 20 days	2	10	2	10
20 days to 1 month	3	15	1	5
1 to 2 months	3	15	2	10
2 to 3 months	2	10	2	10

20. Clinical Manifestations:

Symptoms	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Profuse watery nasal discharge	20	100	20	100
Recurrent sneezing	20	100	20	100
Recurrent salivation	10	50	11	55
Pain in PNS	20	100	20	100
Headache	20	100	20	100
Otalgia	8	40	12	60
Pain in eyes and eyebrows	10	50	8	40
Sore throat	7	35	10	50
Difficulty in breathing	15	75	17	85

21. Relevant Systemic Examination:

Relevant Systematic Examination	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Inspection	5	25	5	15
Palpation	15	75	12	60

Among inpatients:

Inspection revealed 25% had DNS

Palpation revealed 75% had sinus tenderness

Among Outpatients :

Inspection revealed 25% had DNS

Palpation revealed 60% had sinus tenderness

22. Kosam:

Kosam	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Annamayakosam	20	100	20	100
Pranamaya kosam	20	100	20	100
Manomaya kosam	20	100	20	100
Gnenemaya kosam	20	100	20	100
Ananthamaya kosam	-	-	-	-

23. Mukkutram:**A. Disturbance in Vadha:**

Disturbance in Vadha	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Piranan	15	75	16	80
Abanan	2	10	-	-
Viyanan	5	25	7	35
Udhanan	20	100	20	100
Samanan	10	50	12	60
Nagan	-	-	-	-
Koorman	15	75	17	85
Kirukaran	10	50	12	60
Devathathan	9	45	3	15
Dhananjeyan	-	-	1	-

Among Inpatients:

Piranan was affected in 75% of patients

Abanan was affected in 10% of patients

Viyanan was affected in 25% of patients

Udhanan was affected in 100% of patients

Samanan was affected in 50% of patients

Koorman was affected in 75% of patients

Kirukaran was affected in 50% of patients

Devathathan was affected in 45% of patients

Among Outpatients:

Piranan was affected in 80% of patients

Viyanan was affected in 35% of patients

Udhanan was affected in 100% of patients

Samanan was affected in 60% of patients

Koorman was affected in 85% of patients

Devathathan was affected in 15% of patients.

B. Disturbance in Pitha:

Disturbance in Pitha	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Ananpithan	5	25	7	35
Ranjagam	7	30	10	50
Prasagam	-	-	-	-
Alosagam	10	50	12	60
Sathagam	15	75	15	75

Among Inpatients:

Anarpithan was affected in 25% of patients.

Ranjagam was affected in 30% of patients.

Alosagan was affected in 50% of patients.

Sathagam was affected in 75% of patients.

Among Outpatients:

Anarpithan was affected in 35% of patients.

Ranjagam was affected in 50% of patients.

Alosagan was affected in 60% of patients.

Sathagam was affected in 75% of patients.

C. Disturbance in Kaba:

Disturbance in Kaba	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Avalambagam	15	75	15	75
Kilethagam	10	50	12	60
Pothagam	15	75	12	60
Tharpagam	10	50	15	75
Santhigam	10	50	7	35

Among Inpatients:

Avalambagam was affected in 75% of patients.

Kilethagam was affected in 50% of patients.

Pothagam was affected in 75% of patients

Tharpagam was affected in 50% of patients

Santhigam was affected in 50% of patients

Among outpatients:

Avalambagam was affected in 75% of patients.

Kilethagam was affected in 60% of patients.

Pothagam was affected in 60% of patients

Tharpagam was affected in 75% of patients

Santhigam was affected in 35% of patients

24. Seven Udarkattukal:

Seven Udarkattukal	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Saram	12	60	15	75
Seneer	7	35	8	40
Oon	2	10	-	-
Kozhuppu	2	10	-	-
Enbe	4	20	2	10
Moolai	-	-	-	-
Sakkilam . Suronitham	-	-	-	-

Among inpatients:

Saram was affected in 60% of patients

Seneer was affected in 35% of patients

Oon was affected in 10% of patients

Kozhuppu was affected in 10% of patients

Enbu was affected in 20% of patients.

Among Outpatients:

Saram was affected in 75% of patients

Seneer was affected in 40% of patients

Enbu was affected in 40% of patients

25. Envagai thervugal:

Envagai thervugal	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Sparisam	7	35	8	40
Naa	15	75	15	75
Niram	-	-	-	-
Mozhi	10	50	7	35
Vizhi	13	65	15	75
Malam	-	-	-	-
Moothiram	-	-	-	-
Naaadi				
Pitha vadha Naadi	10	50	7	35
Pitha Kaba naadi	5	25	8	40
Kaba Vadha naadi	5	25	5	25

Among Inpatients:

Sparisam was affected in 35% of patients

Naa was affected in 75% of patients

Mozhi was affected in 50% of patients

Vizhi was affected in 65% of patients

In 50% of cases the naadi was Pitha vadha Naadi

In 25% of cases the naadi was Pitha Kaba naadi

In 25% of cases the naadi was Kaba Vadha Naadi

Among outpatients:

Sparisam was affected in 40% of patients

Naa was affected in 75% of patients

Vizhi was affected in 35% of patients

In 35% of cases the naadi was Pitha Vadha Naadi

In 40% of cases the naadi was Pitha Kaba Naadi

In 25% of cases the naadi was Kaba Vadha Naadi

26. Urine analysis:

A. Neerkuri

Neerkuri	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Colour	2	10	-	-
Specific gravity	2	10	-	-
Smell	-	-	-	-
Froth	-	-	-	-
Deposits	-	-	-	-

Among inpatients and outpatients:

Urine colour was affected in 10% of patients

Specific gravity was affected in 10% of patients.

B. Neikuri:

Neikuri	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Vadha Neer (spreading like a shake)	10	50	12	60
Pitha Neer (spreading like a ring)	2	10	1	5
Kaba Neer (Spreading like a pearl)	8	40	7	35
Thontha Neer (coincide of snake, ring, pearl)	-	-	-	-

Among Inpatients:

50% had Vadha neer

10% had Pitha neer

40% had Kaba Neer

Among Outpatients:

60% had Vadha neer

5% had Pitha neer

35% had Kaba neer

27. Radiological examination:

X-Ray PNS	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Frontal simusitis	8	40	10	30
L.Maxillary sinusitis	7	35	4	20
R.maxillary Sinusitis	6	30	7	35
Elthmoid Sinusitis	1	5	-	-
Sphenoid Sinusitis	-	-	-	-
DNS	4	20	2	10

Among Inpatients:

25% had frontal sinusitis

35% had L. Maxillary sinusitis

25% had R. maxillary sinusitis

5% had ethmoidal sinusitis

20% had DNS (Deviated nasal Septum)

Among Outpatients:

30% had frontal sinusitis

20% had L. Maxillary sinusitis

35% had R.maxillary sinusitis

10% had DNS

28. Clinical Assessment:

Clinical Assessment	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Completely relieved	10	50	12	60
Moderately relieved	7	35	5	25
Partially relieved	3	15	3	15
No improvement	-	-	-	-

After the patients were treated with trial medicines the improvement were accessed as follows.

Among inpatients:

50% of patients were completely relieved from all the symptoms

35% of patients were moderately relieved from the symptoms

15% of patients were partially relieved from all the symptoms

Among Outpatients:

60% of patients were completely relieved from all the symptoms

25% of patients were moderately relieved from the symptoms

15% of patients were partially relieved from all the symptoms

28. Gradation of Results:

Grade	Inpatients		Outpatients	
	No of cases	Percentage	No of cases	percentage
Good	16	80	16	80
Fair	4	20	4	20
Poor	-	-	-	-

From above all parameters the overall gradation may be as follows,

Among Inpatients and Outpatients:

80% of cases showed good results

20% of cases showed fair results

Discussion

Pitha thalai nokkadu produces many clinical entities. If neglected it produces various complications. So the author has chosen the disease to relieve the annoyance of Pitha thalai nokkadu symptoms troubling the patients.

Relapse and recurrence of the symptoms were commonly seen in certain cases, while treating Pitha thalai nokkadu. But the miraculous cure by the trial medicines was obviously noted from the results and observations. The Clinical improvement of the patients were completely discussed which brought out the efficacy of the trial medicines.

Twenty patients were admitted in the Inpatient ward of the PG-I Maruthuvam Department, Govt Siddha Medical College Hospital, Palayamkottai and twenty outpatients were undergone clinical study.

All the patients were administered with trial medicines regularity and the results were observed.

1. Sex Distribution

Among 20 inpatients 30% were males and 70% were females.

Among 20 Outpatients 45% were males and 55% were females

2. Age Distribution:

Among 20 inpatients 20% of cases were in the age between 31-40 years 10% were between 41-50 years, 25% were between 51-60 years 35% were between 61-70 years and 10% were between 71-80 years.

Among Outpatients, 25% were between 20 – 30 years 25% were between 31 – 40 years, 20% were between 41 – 50 years, 25% were between 51 – 60 years and 5% were between 61 - 70 years.

So the Occurrence of the disease was found in all age groups.

3. Kaalam:

Among inpatients 10% of cases belonged to vadha Kaalam, 80% belonged to Pithakaalam, 10% belonged to Kabakalam and in outpatients 30% of the cases belonged to Vadhakaalam, and 70% belonged to Pithakaalam.

The maximum number of cases were treated in Pithakaalam

4. Thagi:

Among inpatients and outpatients 100% had thontha thegam as their bodies were constituted by mixed characters of vadha, Pitha and Kaba.

5. Gunum:

Among inpatients and outpatients 100% had Rajokunum.

6. Religious distribution:

85% were Hindu, 10% were christian and 5% were Muslim among inpatients and 100% were Hindus among outpatients.

7. Thinai:

Among inpatients and outpatients 100% came from Marutham

8. Paruvakaalam:

Among inpatients 15% of patients were affected in Koothirkaalam, 55% in Munpani Kaalam, 30% in Pinpanikaalam.

Among outpatients 75% were affected in Koothirkaalam, 25% in Munpanikaalam. The incidence of this disease is encountered in all six kaalam especially in Koothir and Munpanikaalam.

9. Occupational Status:

Among inpatients 5% were servant – maids 15% were House wives, 10% were farmers, 10% retired man, 20% were daily wagers. 20% were Beedi workers, 5% were hotel worker, 10% were merchants, 10% were automobile workers and 5% were unemployed.

Among outpatients 5% were servant maids, 10% were house wives, 15% were farmers, 15% were retired man, 5% were daily wagers, 25% were beedi workers, 10% were students, 15% were merchants and 10% auto mobile workers.

So the disease found in all sorts of occupations.

10. Socio – economic status:

Among inpatients 30% belonged to middle class and 70% poor.

Among outpatients 35% belonged to middle class and 65% were poor.

So the disease was found to be more in poor people due to their poverty ill hygiene poor health care and ignorance of treatment.

11. Diet factors:

Among inpatients and outpatients 10% were vegetarian and 90% had taken mixed diet.

12. Habits:

Among inpatients 25% were smokers, 15% were alcoholics, 20% were tobacco – chewer and 5% were tobacco inhalers.

Among outpatients 35% were smokers, 10% were alcoholic and 25% were tobacco – chewers.

Majority of cases had the habits of smoking and consuming alcohol.

13. Aetiological factors:

Among inpatients 50% had occupational aetiology, 25% had nasal allergy, 5% had bacterial injection, 10% had acute rhinitis, and 10% had swimming & diving.

Among outpatients 45% had occupational aetiology, 30% had nasal allergy, 15% had acute rhinitis and 10% had swimming and diving.

Occupational aetiology contributed more percentage due to patients allergic condition. Acute Rhinitis represented the recurrent infection.

14. Mode of Onset:

Among inpatients 75% had acute and 25% had Chronic onset of illness.

Among outpatients 70% had acute and 30% had chronic onset of illness.

So the clinical presentation of the disease was acute and chronic onset of illness.

15. Duration of illness:

Among inpatients 35% suffered below one week, 15% were affected from 8 to 15 days, 10% suffered from 16 to 20 days, 15% suffered from 20 days to 1 months, 15% suffered from 1 to 2 months and 10% suffered from 2 to 3 months.

Among outpatients, 50% suffered below 1 week 15% suffered from 8 to 15 days, 10% suffered from 16 to 20 day, 5% suffered from 20 days to 1 month, 10% suffered from 1 to 2 months and 10% suffered from 2 to 3 months.

Majority of the patients suffered from 1 to 15 days duration and represented acute onset, 5 to 10% suffered from 2 to 3 months durations and represented chronic onset.

16. Clinical Manifestations:

Among inpatients and outpatients 100% had profused watery nasal discharge, recurrent sneezing, pain in para nasal sinus and headache.

Among inpatients 50% had recurrent salivation, 40% had otalgia, 50% had pain in eyes and eyebrows, 35% had sorethroat and 75% had difficulty in breathing.

Among inpatients 55% had recurrent salivation, 60% had otalgia, 40% had pain in eyes and eyebrows, 50% had sorethroat and 85% had difficulty in breathing.

17. Relevant Systemic examination:

Among inpatients, Inspection revealed, 25% had deviated nasal septum and palpation revealed 75% had tenderness and pain in para nasal sinus.

Among outpatients, Inspection revealed, 25% had deviated nasal septum and palpation revealed 60% had tenderness and pain in para nasal sinus.

Majority of cases had tenderness and pain in para nasal sinus, Inspection brought out the deviated nasal septum.

18. Kosam:

Among inpatients and outpatients 100% were affected in annamayakosam, Pranamayakosam, Manomayakosam and Gnanamayakosam.

As the seven udar Kattukal were affected 100% of cases were affected in annamayakosam. As piranan and five motor organs were affected 100% were affected in pranamayakosam. As five sensory organs were affected 100% of cases were affected in Manomayakosam and gnanamayakosam.

19. Mukkutram A : Disturbance in Vadha:

Among inpatient pranana was affected in 75%, Abanan was affected in 10%, Viyanan was affected in 25%, Udhanan was affected in 100%, Samanan was affected in 50% Koorman was affected in 75%, Kirukaran was affected in 50% and devathatahan was affected in 9%.

Among outpatients pranana was affected in 80%, Abanan was affected in 10%, Viyanan was affected in 100%, Udhanan was affected in 100%, Samanan was affected in 60% Koorman was affected in 85%, Kirukaran was affected in 60% and devathatahan was affected in 15%.

B. Disturbance in Pitha:

Among inpatients, Anarpitham was affected in 25% Renjagam was affected in 30% Alosagam was affected in 50% and Sathagam was affected in 75%.

Among outpatients, Anarpitham was affected in 35% Renjagam was affected in 50% Alosagam was affected in 60% and Sathagam was affected in 75%.

C. Disturbance in Kaba:

Among inpatients avalambagam was affected in 75%, Kilethagam was affected in 50% Pothagam was affected in 75%, Tharpagam was affected in 50% and Santhigam was affected in 50%.

Among outpatients avalambagam was affected in 75%, Kilethagam was affected in 60% Pothagam was affected in 60%, Tharpagam was affected in 60% and Santhigam was affected in 35%.

20. Seven Udarkattukal:

Among inpatients Saram was affected in 60%, Seneer was affected in 35% and Enbu was affected in 10%, Oon was affected in 10%, Kozhuppu was affected in 10%

Among outpatients Saram was affected in 75%, Seneer was affected in 40% and Enbu was affected in 15%.

Affected Oon produced ill built

Affected Kozhupu produced pedal oedema.

Affected Enbu produced lowback ache and arthritis.

21. Envagai Thervugul:

Among inpatients sparisam was affected in 35%, naa was affected in 75%, Mozhi was affected in 50% Vizhi was affected in 65% and 50% had Pltha Vadha naadi, 25% had Pitha Kaba naadi and 25% had kaba vadha naadi.

Among outpatients sparisam was affected in 40% Naa was affected in 75%, Mozhi was affected in 35%, Vizhi was affected in 75% and 35% had Pitha Vadha Naadi 40% had Pitha Kaba Naadi and 25% had kaba vadha naadi.

22. Urine analysis Neer kuri:

Among inpatients the colour and specific gravity was affected in 10%

Neikuri:-

Among inpatients 50% had vadha neer, 10% had pitha neer, and 40% had kaba neer.

Among inpatients 60% had vadha neer, 5% had Pitha neer and 35% had kaba neer.

23. Laboratory Investigations:

Routine investigations of blood, Urine and stool were done during the time of admission and discharge among inpatients and were done among outpatients.

The urine analysis of inpatients showed that 30% had sugar, 25% had albumin and 10% had epithelial cells.

Among Outpatients urine analysis showed that 30% had sugar, 10% had albumin and 10% had epithelial cells.

In blood investigation, 90% had raised ESR and Eosinophils both among inpatients and outpatients.

Among inpatients 35% had reduction in haemoglobin. Among inpatients. Among outpatients 40% had reduction in haemoglobin.

Bio chemical analysis of blood urea and serum cholesterol were found to be normal in both inpatients and outpatients.

Among inpatients and outpatients 30% of cases showed raised blood sugar.

All the cases showed negative montoux test.

All the cases showed normal stools examination results.

After treatment 100% of IP and OP cases showed reduced ESR and Eosinophil level.

25. radiological investigation:

X-ray – PNS among inpatients showed 40% had frontal sinusitis, 35% had L Maxillary sinusitis, 30% had R Maxillary sinusitis, 5% had ethmoid sinusitis and 20% had deviated nasal septum.

Among outpatients 50% had frontal sinusitis, 20% had L maxillary Sinusitis 30% had R maxillary sinusitis and 10% had DNS.

26. Clinical Assessments:

All the patients were treated with trial medicines. The clinical assessment was made by relief of symptoms after treatment.

Among inpatients 50% were completely relieved, 35% were moderately relieved and 15% were partially relieved.

Among outpatients 60% were completely relieved 25% were moderately relieved and 15% were partially relieved

27. Gradation of results:

All the end of the treatment the overall gradation is as follows.

Among inpatients 80% of cases showed good results and 20% of cases showed fair results.

Among outpatients 80% of cases showed good results and 20% of cases showed fair results.

At the end of the treatment the inpatients were discharged and they were advised to follow up treatment in P.G Dept of marathuvam O.P for further management.

During this period each patient was advised to follow diet restrictions & good hygiene.

Special Advices:-

Follow good habits

Follow good hygiene

Follow good dietary regimen

Take oil bath regularly

Avoid stress, strain fear and anxiety

Do simplified yoga and meditation under the guidance of Guru.

Summary

Pitha thalai nokkadu is the most commonly occurring disease. By its prevalence it seeks proper medical attention in the early stage itself otherwise it leads to other cranial complication. So the author has chosen this disease and took strenuous efforts.

This disease is well correlated with sinusitis due to the classical symptoms.

Karpoora Mezuku and peenisa naasa ganapathy thylum were taken as trial medicines for this dissertation work.

The aetiology, Pathology, Classification, Clinical features, diagnosis, complications, differential diagnosis, treatment, prognosis and prevention of disease were collected from available literatures both in Siddha system and Modern system of Medicine.

In this study, 20 patients of both sexes at different age groups with classical clinical symptoms were selected as inpatients and another 20 patients were taken as outpatients.

The trial medicines were given to all the selected patients. From the observations and results, we were clear that the disease was common in the following aspects.

Pithathalai Nokkadu affects both sexes. Age incidence of the disease was seen in all age groups. The majority of patients were treated in pitha Kalam.

Incidence of this disease is encountered in all six kaalam.

The disease had been found more in poor people due to their poverty unhygiene, poor health and ignorance of treatment.

The disease was present as both acute and chronic onset.

Alterations in equilibrium of the three doshas were elicited. In Vadha pranana was affected more. In Pitha anarpitham was affected more. In kaba avalam, bagam was affected more.

Among seven udarkattukal saram and seneer were affected more in majority of the cases.

Siddha diagnosis was achieved with the help of envagai therugal. In envagai therugal, Naa, Mozhi and Vizhi were affected in majority of cases.

In Pitha thalai nokkadu, the naadi was Pitha Vadham and Pitha Kabam in majority of the cases. kaba Vadham was also seen in few cases.

Neerkuri showed that all the patients had normal urinary outflow. Specific gravity was raised in diabetic patients.

Neikuri showed the shapes of snake, ring, pearl and co-occurrence of shapes in the urine.

In modern aspect, routine blood, urine investigation and special test like moutoux and X-ray had seen in all the patients.

Blood Investigation showed raised ESR and Eosinophil level in all the patients.

X-ray – PNS showed the frontal sinusitis, Maxillary sinusitis and ethmoidal sinusitis.

The efficacy of trial medicines were observed during the dissertation period.

Most of the patients had showed significant relief of symptoms and had no side effects after treatment.

Each and every patient was advised to follow diet restriction and prophylaxis for Pitha thalai nokkadu.

Biochemical analysis showed that karpooora Mezhuku had presence of calcium, sulphate, ferrous iron, unsaturated compound, Reducing sugar and Amino acid.

Pharmacological studies showed that karpooora Mezhuku and peenisa naasa ganapathy thylam had moderate analgesic and anti – inflammatory and significant anti – histaminic actions.

Microbiological study proved that karpooora Mezhuku was sensitive to ***staphylococcus aureas, candida albicans*** and ***pseudomonas aeruginosa***.

Conclusion

In this research, clinical results found to be satisfactory in 80% of cases.

Clinically the trial medicines were very effective to the suffering patients who were relieved completely from the symptoms.

Further follow up of all these patients showed efficacy of medicines in recurrent sinusitis also.

Clinical study showed no adverse effects of trial medicines during the study period.

So it is concluded that Pitha Thalai Nokkadu is well controllable by karpoorra Mezuku and peenisa Naasa Ganapathy thylam.

The trial medicine Karpoorra Mezuku has the tastes of enippu, Pulippu and karppu.

Suvai - Enippu, Pulippu, Karppu

Thanmai - Veppam

Privu - Kaarppu

The taste pulippu is converted into Enippu during digestion. So the taste enippu reduces the aggravated pitha and vadha. The taste enippu has the soothing effect on throat which has been irritated by any infection. The taste karppu has anti – kaba activity, which is elevated due to raised vadha and pitha.

And the trial medicine has its Thanmai as Veppam. All the Veppam natured drugs will eliminate the excessive kaba, which aggravated due to vitiated vadha. So the medicine act as a Anti – Vadha medicine.

After ingestion when the trial medicine reaches the gastric juice, it will change into the vibagam kaarppu. At this stage, the medicine will act as a Anti – kaba medicine due to the vibagam – Kaarppu which is aggravated due to vitiated vadha and pitha.

Karppoorā Mezuku acts as a Anti – Vadha medicine on the basis of suvai, Thanmai, Privu, Vibagam on the basis of Edhir urai to vadha disease.

Thus karppoorā Mezuku yield a good prognosis in Pitha thalai nokkadu.

ANNEXURES

A. PREPARATION OF KARPOORA MEZUKU

Ingredients :

Mathulai Verpattai	-	35gm
Vallmilagu	-	35 gm
Karpooram	-	35 gm
Karumbu vellam	-	140 gm
Kirambu	-	35 gm

Preparation:

Take juice from 7 lemon. Put it in an used claypot. Add powdered camphor in it. This material is heated and made into a gel state. Let it to cool and then put it in a “Kalvam” except “Vellam”, Other materials are pulverished and added into the kalvam. Grind this material till a paste like material appear. Then vellam is added slowly and grind till a paste with “Mezuku” consistency appear.

Dose

500 mg Twice daily.

Indications

Thalaivali, Neerpeenisam, Tammal.

Expiry

5 years

Reference

Kannusamy paramparai vaithiyam

(Page No – 222)

Peenisa Naasa Ganapathy Thylum

Ingredients :

Gingelly oil	-	1 part
Cow's milk	-	¼ part
Extract of Notchi	-	1 part
leaves Zinger extract	-	¼ part

Preparation :

Gingerly oil, cow's milk, extract of Notchi leaves and Ginger extract are taken in a vessel, mixed well and heated thoroughly till a material with oil like consistency appears.

Uses :

Take oil bath weekly twice.

Indication :

Vadham – 80, Thalai Vali, Neer Peenisam, Thummal.

Expiry:

1 year

Reference :

Pirana Ratchanirtha Sindhu (Page No.134)

PROPERTIES OF THE DRUGS

1. Karpooram : Camphora Officinarum

Family name : Lauraceae

Parts used : The concrete volatile oil, ie., camphor obtained by distillation with water of the wood of the trees or plants. It occurs as translucent white

Suvai : Crystals, Vuppu, Kaippu, Thubarppu

Thanmai : Thatpam

Privu : Thubarppu

Constituents:

Cymene or cyrol, camphoric acid, a semi solid oil contains "safrole along with camphor.

Action:

Diaphoretic stimulant of skin and cardiac stimulant, antiseptic, anti – spasmodic, internally expectorant, sedative, temporary aphrodisiac, narcotic, internally carminative and externally anodyne. In large doses anti – aphrodisiac.

Indications:

It is given in doses of 3 to 10 grains in the forms of pills, powder and in emulsion.

2. Valmilagu : Piper cubeba

Family name : Piperaceae

Parts used : Dried immature full – grown called the cubebs

uvai - Karppu

Thanmai - Veppam

Privu - Karppu

Constituents :

Aromatic oil, Olio-resin, cubebin, Arabic acid.

Actions:

Stimulant, carminative, Diuretic expectorant.

3. Kirambu : Eugenia Caryophyllate

Family Name : Myrtaceae

Parts used : Fruit, dried flower, buds and oil.

Suvai - Karppu

Thanmai - Veppam

Privu - Karppu

Constituents :

Eugenol, Eugenia, Caryophyllene.

Actions :

Antispasmodic, carminative, stomachic

4. மாதுளை வேர்ப்பட்டை : Punia Granatum

Family - Lythraceae

Parts used : Granati Radicis Cortex.

Suvai - Thuvarappu

Thanmai - Veppam

Privu - Karppu

Constituents:

Punia tannic acid, Gallic acid, Punianin and mannite.

Actions:

Vermifuge, used in chronic Diarrhoea & Dysentery, Astringent.

5. Elumitchai : Citrus lemon

Family	: Rutaceae
Parts used	: Fruit juice
Suvai	: Pulippu, Enippu
Thanmai	: Thatpam
Privu	: Pulippu

Constituents :

Abaundance of essential oil Hesperidin, Citric acid, Gum, Sugar, cossa, Potash.

Actions:

Refrigerent, Antiscorbutic, Relieve from scurvy, Acute Rheumetism and other inflammatory complaints.

6. கரும்பு வெல்லம் : Saccharum Officinarum Linn

Family	: Poecace
Parts used	: Roots, Stems
Suvai	: Enippu
Thanmai	: Seetham
Privu	: Enippu

Actions :

The roots are cooling and diuretic. The stems are sweet, cooling, emollient, laxative, expectorant. Cardiotonic, Diuretic, antiseptic, Galactogogue, aphrodisiac, haemostatic and tonic.

They are useful in cough, bronchitis, Dipsia, Cardiac debility, haematemesis, anaemia, emaciation and general debility.

Peenisa Naasa Ganapathy thylum

Gingelly oil : நல்லெண்ணெய்

Botanical name : Sesamum indicum

Family : Pedaliaceae

Parts used : Oil

Suvai : Enippu

Thanmai : Veppam

Privu : Enippu

Constituents :

Oil contains 70% of liquid fats consisting of the glycerides of oleic acid and linolenic acids and 12 to 14% of solid fats, sterin, Palmitin and myristin.

Actions:

Laxative, emollient, demulsent, diuretic.

Notchi : Vitex Nigundo

Family : verbenaceae

Parts used : Extract of leaves

Suvai : Kaippu, Thuvorppu, Karppu

Thanmai : Veppam

Privu : Karppu

Constituents : leaves contain essential oil and resin.

Action : Alterative, Vermifuge

Ingi : Zingiber Officinalis

Family : Zingiberaceae

Parts used : Extract of zinger rhizome

Suvai : Karppu

Thanmai : Veppam

Privu : Karppu

Constituents:

The principle constituents of ginger are starch, volatile oil and resin.

Actions:

Internally : It is a stimulant, aromatic and Carminative.

Externally : Rubifacient so frequently it will relive headache and
Toothache.

Cow milk

Suvai : Enippu

Thanmai : Thatpam

Privu : enippu

Constituents :

Casein, fat, Sugar (milk Sugar) calcium Phosphate, Potassium
Phosphate, Magnesium Phosphate, Sodium Chloride and iron.

Action :

Demulcent, Nutrient and cardiac tonic.

B. BIO-CHEMICAL ANALYSIS OF KARPOORA MEZUKU

Preparation of the Extract:-

5 mgs of the drug is weighed accurately and placed in a 250ml beaker. Then 50mls of distilled water is added and dissolved it well. Then it is boiled wel. For about 10 minutes. Then cool it and filter in a 100ml volumetric flack and then it is make up to 100ml with distilled water. This filled is taken for analysis.

S.No	Experiment	Observation	Inference
1	Test for Calcium: 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 40% Ammonium oxalate solution is added	A white precipitate is formed	Indicates the presence of calcium
2	Test for sulphate: 2ml of the extract is added to 5% barium Chloride solution	A white precipitate is formed	Indicates the presence of sulphate
3	Test for Chloride: The extract is treated with silver nitrate solution.	No white precipitate is formed	Absence of Chloride
4	Test for Carbonate:- The substance is treated with concentrated HCL	No brisk effervescence is formed	Absence of carbonate
5	Test for Starch:- The extract is added with weak iodine solution	No blue colour is formed	Absence of starch
6	Test for Iron:- Ferric :- The extract is treated with glacial acid and potassium Ferro cyanide.	No blue colour is formed	Absence of ferric Iron
7	Test for Iron:- Rerous:- The extract is treated with concentrated Nitric acid and ammonium thio cynate	Blood red colour is formed	Indicates the presence of ferrous Iron

8	<p>Test for Phosphate:- The extract is treated with ammonium Molybdate and concentrated and nitric acid</p>	No yellow precipitate is formed	Absence of phosphate
9	<p>Test for Albumin: The extract is treated with Esbach's reagent</p>	No yellow precipitate is formed	Absence of Albumin
10	<p>Test for tannic Acid:- The extract is treated with ferric chloride</p>	No blue black precipitate is formed	Absence of tannic acid
11	<p>Test for reducing Sugar:- 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8 – 10 drops of the extract and again boil it for 2 mts.</p>	Colour change occurs	Indicates the presence of Reducing Sugar
12	<p>Test for Amino Acid:- One or two drops of the extract is placed on a filter paper and dried it well. After drying 1% Ninhydrin is sprayed over the same and Dried it well</p>	Violet colour is formed	Indicates the presence of Amino acid

C. PHARMACOLOGICAL ANALYSIS
ANALGESIC STUDY OF KARPOORA MEZUKU
(In Albino rate by trial flick method)

Aim:

To study the analgesic effect of karpoor Mezuku in Albino rates by tail flick method.

Preparation of the test drug:

1 gm of karpoora Mezuku was taken and dissolved in 10ml of the hot water. This 1ml contains 100mg of test drug karpoora mezuku. A dose of 1ml containing 100mg of drug was given to each rat.

Instrument:

Hot water bath maintained at $55^{\circ} \pm 0.5^{\circ}\text{c}$ was used as the source of stimulus.

Procedure:

Three groups of healthy albino rats on both sexes were selected. Each group having 2 rats, weighing between 100 to 150 gm.

The tail was dipped into the bath, and the time taken for each rat to remove its tail from the hot water bath was noted. The rat, which took more than 5 seconds for removing of its tail from hot water bath, was excluded from the experiment. First group was kept as control by giving distilled water of 1ml per 100gm of body weight. The second group was given paracetamol 20mg per 100gm of body weight and kept as standard.

The third group was given the test drug karpooora MezhuKu 100mg / 100gm of body weight.

30 minutes after Medicines administration, the tail of each rat was dipped into hot water bath one by one. The time taken for each rat to remove its tail was noted. The whole experiment was repeated after 30 minutes.

The results of control group, standard group and drug treated group were tabulated and compared.

After medicine

S.No	Name of drugs / Groups	Dose 100gm body weight of Albinorat	Initial reading In sec	Administration			Remarks
				After ½ hr	After 1 hr	After ½ hr	
1	Control (Water)	1ml	2.5	2.5	2.5	3.0	-
2	Standard (Paracetamol)	20mg/1ml	2.5	4.0	5.0	6.5	-
3.	Test drug (Karpooora) Mezuku		2.5	3.5	4.0	5.5	Significant

Inference :

It is observed that karpooora MezhuKu has **significant** analgesic action.

Acute Anti – inflammatory Study on Karpoora Mezhuku

(By kind paw method in albino rats)

Aim:

To study the acute anti inflammatory effect of Karpoora Mezhuku

Preparation of Test Medicine:

1gm of Karpoora Mezhuku was taken and dissolved in 10ml of the hot water. This 1ml contains 100mg of drug was given to each rat.

Procedure:

Nine healthy albino rats weighing 100-150gm were taken and divided into three groups, each consisting of 3 rats.

First group was kept as control by giving distilled water of 1ml / 100gm of body weight. The second group was given Ibuprofen at a dose of 20mg/1ml per 100gm of body weight and kept as standard. The third group was received the test medicine at a dose of 40mg/1ml per 100gm of body weight.

Before administration of test drug, the hind paw volume of all rats was measured. This was done by dipping the hind paw upto tibio tarsal junction, into a mercury plethysmograph. While dipping the hind paw by pulling the syringe piston, the level of mercury in the centre small tube was made to coincide with red marking and reading was noted from the plethysmograph.

Soon after the measurement the drugs were administered orally. One hour later, a subcutaneous infection of 0.1ml of 1% w/y carragenin in water was injected into planter surface of both hind paws of each rat.

Three hours after carragenin injection the hind paw volume was measured once again. The differences between the initial and final volumes showed the amount of inflammation.

By taking the volume in the control group as inflammation the anti inflammatory effect of the test drug was calculated.

Tabulations of the result were recorded

S.N	Groups	Dose 100gm body weight	Initial reading average	Final reading average	Mean difference	Inflammation %	Inhibition
1	Water	1 ml	0.65	1.5	0.85	100	-
2	Ibuprofen	20 mg / ml	0.80	0.85	0.05	6.25	93.75
3	Karpooa Mezuku	40 mg /ml	0.85	1.20	0.35	43.75	56.25

Inference:

It was observed that Karpooa Mezuku had **Moderate** acute anti – inflammatory effect.

Chronic anti inflammatory study of Karpoora Mezhu

Cotton pellets granuloma method

AIM:

To study the chronic anti – inflammatory activity of drug, Karpoora Mezhu in the rats by cotton pellets implanatation (Granuloma) method.

Preparation of the test drug:

1 gm of Karpoora Mezhu was taken and dissolved in 10ml of the hot water. This 1ml contains 100mg of test drug Karpoora Mezhu. A dose of 1ml containing 100mg of drug was given to each rat.

Procedure:

Cotton pellets each weighing 10gm was prepared and sterilized in an autoclave for about one hot under 15Hg atmosphere pressure. 6 albino rats weighing 100 to 150gm were selected and were divided into 3 groups each containing 2 rats. Each rat was anaesthetized with ether and cotton pellets were implanted subcutaneously in the groin, two on each side.

First group was kept as control by giving Luke warm water of 1ml/100mg of body weight. To the second group the standard drug ibuprofen in a dose of 20mg/100gm body weight was given. The third group of animals was given test drug karpoora Mezuku in a dose of 100mg/100gm of body weight. On the 8th day of the experiment, all the rats were scarified and cotton pellets found to be surrounded by granulation tissue were removed and dried in hot oven at 55⁰c – 60⁰c. The concordant weight of granuloma of control

group and treated group give an estimation of degree of inhibitory activity of test drug.

Results:

The details of the experiment results are shown in the table.

S. No	Name of drug / groups	Dose 100gm body weight	Pellet weight	Pellet weight of the granuloma of drug	Mean Difference	% of inflammatory	% of inhibition	Remarks
1	Water (control)	1ml	10mg	250mg	-	100.0	-	-
2	Ibuprofen (Standard)	20mg / 1ml	10 mg	56 mg	-	22.4	77.6	-
3	Karpooora Mezuku	100 mg /1ml	10 mg	130mg	-	52.0	48.0	Moderate

Inference:

The test drug Karpooora Mezuku has got **Moderate** chronic anti – inflammatory effect.

Anti – Histamiac effect of Karpoora Mezhuku

Aim:

To study the anti – histamiac effect of Karpoora Mezhuku

Preparations of drug:

5mgs of Karpoora Mezhuku was added to 50ml of water and made into decoction of 10ml and this was used for the studies.

Solution required:

Histamine (1 in 1,00,000) strength

Method:

A Guinea pig weighing about 450gms was starved for 48 hrs and only water allowed. It was killed by stunning with a sharp blow on the head and cutting its throat to bleed to death. The abdomen was quickly opened and the viscera inspected and loops of intestine identified using the patch as a land mark, then the ileum was removed and placed in a shallow – disk containing warm “Tyrode solution”. With the help of 25ml pipette, the lumen of ileum was gently rinsed with saline. It was cut into segments of required length, generally 4cm, in a fully relaxed state and the sutures were made with needle and tied at either ends. The segment is suspended in an isolated organ bath. It was aerated by an oxygen tube and immersed in Tyrode solution at 37⁰C. Drugs were given to study the inhibitory effect of histamine indeed contractions.

Inference:

The drug Karpoora Mezhuku has good – anti histaminic effect.

Acute Anti – inflammatory Study on Peenisa naasa

Ganapathy Thyam

(By kind paw method in albino rats)

Aim:

To study the acute anti inflammatory effect of Peenisa naasa Ganapathy Thylam.

Preparation of Test Medicine:

1gm of Peenisa naasa Ganapathy Thylam was taken and dissolved in 10ml of the hot water. This 1ml contains 100mg of drug was given to each rat.

Procedure:

Nine healthy albino rats weighing 100-150gm were taken and divided into three groups, each consisting of 3 rats.

First group was kept as control by giving distilled water of 1ml / 100gm of body weight. The second group was given Ibuprofen at a dose of 20mg/1ml per 100gm of body weight and kept as standard. The third group was received the test medicine at a dose of 40mg/1ml per 100gm of body weight.

Before administration of test drug, the hind paw volume of all rats was measured. This was done by dipping the hind paw upto tibio tarsal junction, into a mercury plethysneograph. While dipping the hind paw by pulling the syringe piston, the level of mercury in the centre small tube was made to coincide with red marking and reading was noted from the plethysmograph.

Soon after the measurement the drugs were administered orally. One hour later, a subcutaneous infection of 0.1ml of 1% w/y carragenin in water was injected into planter surface of both hind paws of each rat.

Three hours after carragenin injection the hind paw volume was measured once again. The differences between the initial and final volumes showed the amount of inflammation.

By taking the volume in the control group as inflammation the anti inflammatory effect of the test drug was calculated.

Tabulations of the result were recorded

S. N	Groups	Dose 100gm body weight	Initial reading average	Final reading average	Mean difference	Inflammation %	Inhibition
1	Water	1 ml	0.65	1.5	0.85	100	-
2	Ibuprofen	20 mg / ml	0.80	0.85	0.05	6.25	93.75
3	Peenisa naasa Ganapathy Thylam.	External	0.65	1.3	0.65	81.30	18.70

Inference:

It was observed that Peenisa naasa Ganapathy Thylam had **Mild** acute anti – inflammatory effect.

Anti – Histaminic effect of Peenisa naasa Ganapathy Thylam

Aim:

To study the anti – histaminic effect of Peenisa naasa Ganapathy Thylam.

Preparations of drug:

5mgs of Peenisa naasa Ganapathy Thylam was added to 50ml of water and made into decoction of 10ml and this was used for the studies.

Solution required:

Histamine (1 in 1,00,000) strength

Method:

A Guinea pig weighing about 450gms was starved for 48 hrs and only water allowed. It was killed by stunning with a sharp blow on the head and cutting its throat to bleed to death. The abdomen was quickly opened and the viscera inspected and loops of intestine identified using the patch as a land mark, then the ileum was removed and placed in a shallow – disk containing warm “Tyrode solution”. With the help of 25ml pipette, the lumen of ileum was gently rinsed with saline. It was cut into segments of required length, generally 4cm, in a fully relaxed state and the sutures were made with needle and tied at either ends. The segment is suspended in an isolated organ bath. It was aerated by an oxygen tube and immersed in Tyrode solution at 37⁰C. Drugs were given to study the inhibitory effect of histamine indeed contractions.

Inference:

The drug Peenisa naasa Ganapathy thylum has **significant** anti – Histaminic effect.

Anti – Microbial study of Karpoora Mezhuku

Aim:

To study the anti microbial action of Karpoora Mezhuku.

Procedure:

To prepare 20mg and 40mg concentration of the drugs, 2 grams of the drug was dissolved in 1ml of sterile distilled water and from this master dilution 20 micro litres and 40 micro litres were loaded on the disc.

Preparation of standard stains :

Standard laboratory referral strains such were initially grown in Nutrient agar and maintained at 370c.

Before antibacterial testing each strain was inoculated in 5ml of B.H.I Brothe and inoculated at 370c for 30 minutes.

Anti bacterial activity testing by disc diffusion method:

For anti bacterial activity, 90mm periplates of muller – Hinton Agar (M.H.A) was used. For each organism the innoculum was poured on the separate MHA plate and allowed to spread uniformly. The excess brothe was drained aspectically.

The discs which contain 20 g and 40 g concentration of drug was placed on the MHA and inoculated at 370c for 24 hours.

Interpretation:

Reading were taken after 24 hours of incubation. The inhibitory zone diameter was measured in millimeter scale.

Results:

Karpooora Mezhuugu was compared with standard antibiotics. The medicine was well sensitive against pseudomonas aeuroginosa candida albicans and staphylococcus aureus.

PROFORMA OF CASE SHEET
GOVERNMENT SIDDHA MEDICAL COLLEGE AND HOSPITAL
DEPARTMENT OF POST GRADUATE – POTHU MARUTHUVAM
PALAYAMKOTTAI – TIRUNELVELI – 627 002
CASE SHEET PROFORMA FOR PITHA THALAI NOKKADU – OP

O.P.No : Occupation :
Name : Income :
Age / Sex : Treatment starting date :
Address : End of treatment date :
Total number of days treated :
Result :
Diagnosis – PITHA THALAI NOKKADU
Medical Officer

COMPLAINTS AND DURATION

1. Profused watery nasal discharge :
2. Recurrent Sneezing :
3. Excessive salivation :
4. Pain in Para Nasal Sinus :
5. Head ache :
6. Otagia :
7. Pain in eyes and eyebrows :
8. Sore throat :
9. Difficulty in breathing :
10. Constipation :
11. Insomina :

DURATION OF ILLNESS

PAST HISTORY

General Examination :

Consciousness :

Decubitus :

Nutrition :

Anaemia :

Cyanosis :

Jaundice :

JVP :

Pedal Oedema :

Lymphadenopathy :

Koilonychia :

Clubbing :

Temperature :

Pulse Rate :

Heart Rate :

Respiratory Rate :

Blood Pressure :

ENVAGAI THERVUGAL

Naadi :

Sparisum :

Naa :

Niram :

Mozhi :

Vizhi :

Maalam :

Moothiram :

a. Neeikuri :

Niram :

Manam :

Edai :

Nurai :

Enzel :

b. Neikuri :

EXAMINATION OF NOSE AND PARA NASAL SINUS

Inspection :

Nasal Mucosa :
Nasal Septum :
Nasal Polyp :

Palpation :

Maxillary Region :
Frontal Region :
Ethmoidal Region :
Intra Orbital Region :

Relevant other Systemic Examination :

Cardiovascular system :
Respiratory system :
Central Nervous System :
Alimentary :

LAB INVESTIGATION :

Blood :

TC :
DC :
ESR :
Hb :
Sugar (R) :
Urea :
Serum Cholestral :

Urine :

Albumin :
Sugar :
Deposit :

Motion :

Ova :
Cyst :

Other Investigation :

X-Ray, Skull for PNS

Treatment :

1. Karpooa Melugu – 500 mg BD
2. PEENISA NAASA GANAPATHY THYLUM – 30ml for bath. Weekly twice.

Diet and Advice :

1. மிளகு ரசம், கரிசாலை, மணத்தக்காளி, கத்தரி, முருங்கை, கருணை இவைகளை உட்கொள்ளவும்.
2. சுரை, பூசணை, பீர்க்கு, புடலை இவைகளை தவிர்க்கவும்.
3. குளிர்ச்சியான பொருட்கள் தவிர்க்கவும்.
4. குளிர்ந்த இடத்தில் இருத்தல் கூடாது.
5. தூசியுள்ள இடத்தில் இருத்தல் கூடாது.
6. தயிர், ஐஸ்க்ரீம், எலுமிச்சை ரசம் இவைகளை தவிர்க்கவும்.
7. வெந்நீர், சூடான பொருட்கள் உட்கொள்ளவும்.
8. எண்ணெய் தேய்த்து குளிக்கும் போது வெந்நீரில் குளிக்கவும்.
9. பகல் தூக்கம், எண்ணெய் தேய்த்து குளித்த பின் தூக்கம் கூடாது.

**GOVT. SIDDHA MEDICAL COLLEGE & HOSPITAL ,
PALAYAMKOTTAI
DEPARTMENT OF POST GRADUATE MARUTHUVAM [POTHU]
CASE SHEET PROFORMA FOR PITHA THALAI NOKKADU
IN PATIENTS**

IP NO	:	Occupation	:
Bed No	:	Income	:
Ward No	:	Nationality	:
Name	:	Religion	:
Age	:	Date of Admission	:
Sex	:	Date of Discharge	:
Permanent			
Address	:	No of days treated:	
		Diagnosis	:
		Results	:
		Medical Officer	:
Complaints and Duration	:		
History of present illness	:		
History of past illnesses	:		
Personal History	:		
Family History	:		
Habits	:		

General Examinations:

Consciousness :
Decubitus :
Nutrition :
Anemia :
Cyanosis :
Clubbing :
Jaundice :
Hymphadenopathy :
Pedal oedema :
JVP :
Engorged vein :
Congenital anomaly :
Miscellaneous :

Vital sigas :

Temperature
Pulse Rate
Heart Rate
Blood Pressure

SIDDHA ASPECT

NILAM :

Kurunji
Mullai
Marutham
Neithal
Palai

PARUVAKALAM :

- | | | | |
|----|-------------------|---|--------------------|
| 1. | Kaar Kaalam | - | ஆவணி, புரட்டாசி |
| 2. | Koothir Kaalam | - | ஐப்பசி, கார்த்திகை |
| 3. | Munpani Kaalam | - | மார்கழி, தை |
| 4. | Pinpani Kaalam | - | மாசி, பங்குனி |
| 5. | Elavenil Kaalam | - | சித்திரை, வைகாசி |
| 6. | Muthuvenil Kaalam | - | ஆனி, ஆடி |

SIRUPOZUDHU:

1. Vaikarai
2. Kalai
3. Pagal
4. Erpadu
5. Malai
6. Yamam

UDAL NILAI:

1. Vadham
2. Pitham
3. Kebam
4. Kalappu

Gunum :

1. Sathuvagunum
2. Rajogunum
3. Thamogunum

IMPORIAL :

Mei	-	Skin
Vai	-	Tongue
Kan	-	Eye
Mookku	-	Nose
Sevi	-	Ear

KANMANTHIRIYAM :

Kai	:
Kal	:
Vai	:
Eruvai	:
Karuvai	:

KOSAM :

Anna maya kosam	:
Prana maya kosam	:
Manomaya kosam	:
Vigana maya kosam	:
Ananthamaya kosam	:

UYIR THATHUKKAL :

VADHAM :

Piranan :
Abanan :
Viyanan :
Udhanan :
Samanan :
Nagan :
Koorman :
Kirukaran :
Devathathan :
Thananjeyan:

PITHAM :

Anarpitham :
Ranjekam :
Sathagam :
Alosagam :
Prsagam :

KABAM :

Avalambegam :
Kilethagam :
Pothagam :
Tharpagam :
Santhigam ;

UDAL KATTUKAL :

Saram :
Seneer :

Uon :
Enbu :
Kozuppu :
Moolai :
Sukkilam / suronitham :

ENVAGAI THERVUGAL :

Naadi :
Sparisam :
Nae :
Niram :
Mozhi :
Vizhi :
Malam :
Moothiram :
Neer kuri : Niram :
Manam :
Edai :
Nurai :
Eajel :

Neikuri :

MODERN ASPECT

A. ALLERGIC TO :

- Pollens :
- Dust :
- Smoke :
- Fumes :
- Drugs :
- Others if any

B. PRECIPITATING FACTORS :

- Cold climate
- Exercise
- Drugs
- Psychological
- Others if any

Examination of Nose and PNS

A. General Examination

1. Nasal Discharge

- a. Mucoid
- b. Muco purulent
- c. Purulent
- d. Blood stained
- e. Bloody
- f. Roul discharge
- g. Unilateral / Bilateral

2. Nasal obstruction

- Uni lateral / Bilateral

3. Disturbance of smell
4. Recurrent sneezing / Nasal Irritation
5. Itching / Watering of eyes
6. Otagia
7. Headache
8. Vertigo
9. Voice

Local examination :

1. Inspection :

Nasal Mucosa

Nasal Polyp

Nasal Septum

2. Palpation :

Maxillary region :

Frontal region :

Intra Orbital region:

Mastoid region :

Examinations of other system :

RS :

CVS :

GIT :

CNS :

LABORATORY INVESTIGATION :

Blood :

TC :
DC : P : L : E
ESR :
HB :
Sugar :
Urea :
Cholesterol:

Urine :

Albumin :
Sugar :
Deposit :

Motion :

Ova :
Cyst :

Sputum for AFB :

Mantoux Test :

X-ray – skull for PNS :

CT Scan :

MRI :

Treatment :

1. Karpoora Mezuku - 500 mg BD
2. Peenisa Naasa Ganapathy thylum – 30 ml (for bath) (weekly twice)

DIET AND ADVICE :

1. மிளகுரசம், கரிசாலை, பொன்னாங்கண்ணி, கத்தரி, முருங்கை, கருணை இவை கொள்ளவும்.
2. வெந்நீர், சூடான பொருட்களை உண்ணவும்.
3. சுரை, பூசணை, புடலை, பிர்க்கு தவிர்க்கவும்.
4. தயிர், எலுமிச்சை ரசம், ஐஸ்கிரீம் இவைகளை தவிர்க்கவும்.
5. தைலம் தேய்த்து குளிக்கும் போது வெந்நீரில் குளிக்கவும்.
6. குளிர்ந்த இடத்தில் படுத்தல் கூடாது.
7. தூசியுள்ள இடத்தில் இருத்தல் கூடாது.
8. பகல் தூக்கம், எண்ணெய் தேய்த்து குளித்தவ தூக்கம் கூடாது.

DISCHARGE CASE SHEET

IP NO	:	Occupation	:
Bed No	:	Income	:
Ward No	:	Nationality	:
Name	:	Religion	:
Age / Sex	:	D.O.A:	
Permanent Address	:	D.O.D	:
		No of days	
		Treated	:
		Diagnosis	:
		Result	:
		Medical	
		Officer	:

S.No	During Admission	During Discharge
1	Profused watery Nasal discharge	
2	Recurrent Sneezing	
3	Recurrent Salivation	
4	Pain in para nasal Sinus	
5	Pain in eyes and eyebrows	
6	Otalgia	
7	Head ache	
8	Sore throat	
9	Difficulty in breathing	
10	Constipation	
11	Insomnia	

Place :

Date :

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1. Agasthiyar 2000
2. Agasthiyar Ayurvedham – 1200
3. Agasthiyar Gunavahadam
4. Agasthiyar Kanma kaandam – 300
5. Agasthiyar Mani 4000 Enum Vaithiya Chinthamani
6. Agasthiyar Rathina Kirikidam
7. Agasthiyar Vaithiya Vallathi – 600
8. Agasthiyar Vaithiya Kaviyam - 1500
9. Anubhava Vaithiya Devarahasiyam
10. Gunapadam – Mooligai Vahuppu – S.Murugan Mudhaliyar
11. Gunapadam – Thathu, Jeeva Vahuppu – Dr.R.Thiyagaraja
12. Jeeva Rakshamirtham
13. Manmurukkiyam
14. Materia Media – Nadkarni I & II
15. Pararasasekaram – 8th Vadha Roga Nithanam
16. Patharthaguna Gune Chinthamani
17. Pathenenn Siddar naadi Sasthiram
18. Roga Nirnaya Saram Enum Roga Nithanam
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21. Siddha Maruthuvanga Surukkam – Dr. S.Uthamarayan H.B.I.M
22. Siddha maruthuva Noi Nadal Noi Mudhal Nadal – Part I & II . Dr.
M.Shanmuga Velu H.B.I.M.
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24. T.V. Sambasivam Pillai Maruthuva Anaradhi vol – III
25. Thanvanthri Vaithiyam
26. Theraiyar Neerkuri Neikuri Nool
27. Theraiyar Vahadam

28. Theraiyar Venba
29. Theran karisal
30. Thirukkural – Thiruvalluvar
31. Thirumanthiram – Thirumoolar
32. Thirumoolar karukkidai vaithiyam – 600
33. Yugi Vaithiya chinthamani – 800
34. Kannusamy parambarai vaithiyam
35. Piranaratchamirtha chindhu

Modern Aspect :-

1. Gray's Anatomy
2. Davidson's Principles and Practice of Medicine
3. Colour Atlas of Human Anatomy
4. Guyton's Text book physiology
5. Harrison's Principle of Internal Medicine
6. Text Book of Pharmacology – Stoskar
7. Fundamentals of Ear, Nose, Throat diseases – Dr. Ramalingam
8. Encyclopedia of Allergy and Environmental – Ellen Rothere

IN PATIENTS CASE SHEET

S.No	IP.No	NAME	Age/Sex	Duration of illness	Date of Admission	Date of Discharge	No of days treated		Results
							IP	OP	
1	2356	Petchiammal	30/F	5 days	13.11.06	28.11.06	16	30	Good
2	2650	Krishnammal	65/F	7 Days	23.11.06	02.12.06	10	35	Good
3	2357	Muppidathy	62/F	4 Days	24.11.06	03.12.06	10	30	Good
4	2916	Mary	45/F	5 Days	19.12.06	03.01.07	16	30	Good
5	2852	Petchiammal	57/F	2 months	13.12.06	28.12.06	16	25	Fair
6	370	Pratti	63/F	20 Days	08.2.07	22.02.07	15	30	Good
7	227	Amutha	40/F	7 Days	02.02.07	19.02.07	18	25	Good
8	228	Rajeswari	32/F	15 days	02.02.07	19.02.07	18	25	Good
9	364	Reeta	60/F	1 month	08.02.07	22.02.07	15	30	Fair`
10	236	Susella	37/F	7 days	02.02.07	16.02.07	15	30	Good
11	144	Murugan	60/M	2 months	04.02.07	16.02.07	15	30	Good
12	344	Valliammal	65/F	1 month	06.02.07	20.02.07	15	25	Good
13	410	Eswari	65/F	3 month	10.02.07	24.02.07	15	30	Good
14	464	Rajammal	50/F	20 days	14.02.07	27.02.07	14	25	Good
15	479	Soundarammal	55/F	7 days	15.02.07	28.02.07	14	30	Good
16	517	Beer Mohammed	80/M	3 months	20.02.07	07.03.07	16	25	Fair
17	537	Thiraviam	71/M	2 months	21.02.07	02.03.07	10	30	Good
18	554	Subramanian	57/M	15 days	22.02.07	03.03.07	10	30	Good
19	555	Uikattan	66/M	1 month	22.02.07	08.03.07	15	30	Good
20	593	Kumarasamy	62/M	2 month	26.02.07	13.03.07	16	25	Good

OUT PATIENTS CASE SHEET

SL. No	OP.No	Name	Age / Sex	Duration of illness	Treatment starting date	Treatment ending date	No of days treated	Results
1	63469	Raj	28/M	4 days	06.11.06	21.12.06	45	Good
2	63516	Kasi lakshmi	45/F	5 days	07.11.06	21.12.06	44	Good
3	63539	Natarajan	20/M	5 days	09.11.06	24.12.06	45	Good
4	64187	Rama	38/M	7 days	09.11.06	25.12.06	46	Good
5	63961	Muthulakshmi	28/F	10 days	11.11.06	30.12.06	50	Good
6	64441	Vijayalakshmi	24/F	7 days	10.11.06	31.12.06	51	Good
7	64028	Vasanthy	52/F	2 months	10.11.06	31.12.06	51	Good
8	64461	Murugan	30/M	7 days	10.11.06	29.12.06	49	Good
9	64790	Velayutham	66/M	3 mionths	11.11.06	25.12.06	44	Fair
10	64057	Velusamy	58/M	15 days	13.11.06	25.12.06	42	Fair
11	65105	Adhi lakshmi	56/F	2 months	13.11.06	30.12.06	47	Good
12	64513	Kaliyammal	45/F	7 days	13.11.06	30.12.06	47	Good
13	63612	Kanthimathy	51/F	3 months	16.11.06	29.12.06	43	Good
14	65104	Esakki	50/M	1 month	13.11.06	28.12.06	45	Good
15	65579	Thanga Raj	48/M	7 days	17.11.06	27.12.06	41	Good
16	65484	Rajam	39/F	10 days	20.11.06	20.12.06	41	Good
17	67998	Raji	36/F	15 days	25.11.06	27.12.06	43	Good
18	64039	Kalaivani	36/F	7 days	23.11.06	24.12.06	42	Good
19	69004	Vijaya	32/F	7 days	30.11.06	31.12.06	42	Good
20	69007	Murugan	54/M	2 months	30.11.06	30.12.06	41	Fair

INVESTIGATION CHART FOR IN PATIENTS

S.No	IP No	Blood Investigation								AT					Bio – chemical analysis						X – ray PNS	Urine Analysis						
		BT																				BT			AT			
		TC cells/cum m	DC%			ESR-MM		Hb %	TC cells/cu mm	DC%			ESR-MM		HB %	BT – mg%			AT-mg%			A/b	Sug	Dep	A/b	Sug	Dep	
			P %	L%	E %	½ hr	1 hr			P %	L	EI	½ hr	1 hr		sug	ur e	Cho	Sug	U re								Cho
1	2356	9000	64	30	6	7	15	70	9000	64	34	2	3	5	70	70	22	160	70	20	140	Frontal sinusitis	Nil	Nil	Fewpus & epithel	Nil	Nil	NAD
2	2650	9200	54	36	10	25	52	65	9200	60	38	2	7	15	65	156	58	150	150	40	150	DNS L & L maxillary sinusitis	Nil	Nil	Cells	Nil	Nil	NAD
3	2347	9000	60	30	10	20	40	75	9000	63	36	1	4	7	75	86	20	110	80	16	110	Frontal & L Maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
4	2916	8900	58	36	6	8	15	65	8900	62	37	1	3	5	65	85	22	120	85	20	110	Frontal & Ettneoidal sinusitis	Nil	Nil	Fan puscells	Nil	Nil	NAD
5	2852	8800	58	28	14	35	65	70	8800	62	36	2	20	40	65	91	19	169	85	19	160	L Maxillary sinusitis	Nil	Nil	Fen epithelial cells	Nil	Nil	NAD
6	370	8900	54	36	10	12	38	75	8900	60	38	2	7	15	75	150	32	140	150	30	140	Frontal & L maxillary sinusitis	Trace	Nil	15-20 puscells	Nil	Nil	5-7 puscells
7	227	9200	54	44	2	5	9	70	9200	55	44	1	3	5	70	70	20	149	76	20	150	Frontal sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
8	228	9000	61	30	9	8	18	78	9000	64	33	3	5	7	78	80	22	150	85	22	150	R – Maxillary sinusitus	Nil	Nil	Few puscells	Nil	Nil	NAD
9	364	8600	50	31	9	60	98	60	8600	59	30	1	20	40	60	85	20	120	85	20	120	Frontal sinusitis	Nil	Nil	Few epithelial cells	Nil	Nil	NAD
10	236	9600	60	36	4	8	18	75	9600	60	38	2	5	7	75	80	25	155	80	25	155	Frontal sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
11	144	9500	58	38	4	5	11	72	9500	58	40	2	3	7	72	101	34	171	80	35	170	DNS to L	Nil	Nil	Few puscells	Nil	Nil	NAD
12	344	9200	52	38	10	10	15	70	9200	60	38	2	5	7	70	80	21	150	81	20	151	R Maxillary sinusitis	Nil	Nil	Few puscells	Nil	Nil	NAD
13	410	9000	54	36	10	10	15	70	9000	62	33	1	3	5	70	120	18	200	90	18	200	DNS to L	Nil	Nil	Few epithelial cells	Nil	NIL	NAD
14	464	9000	60	38	2	10	22	68	9000	61	38	1	5	9	68	99	16	232	92	16	230	Frontal sinusitis	Nil	Nil	Few puscells	Nil	Nil	NAD

15	479	8800	50	40	10	5	11	70	8800	59	39	2	3	5	70	80	32	125	80	32	125	Bilateral maxillary sinusitis	Nil	Nil	Few puscells	Nil	Nil	NAD
16	517	10200	52	40	8	18	40	71	10200	58	40	2	10	15	71	70	30	199	80	30	199	DNS to L	Nil	Nil	NAD	Nil	Nil	NAD
17	537	8200	50	48	2	7	15	65	8200	50	49	1	3	5	65	110	80	155	90	80	155	R – Maxillary	++	Nil	Few puscells	+	Nil	NAD
18	554	7800	58	36	6	8	15	75	8000	62	36	2	3	5	75	79	20	140	80	22	140	L – Maxillaery sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
19	555	8800	50	40	10	5	11	70	8800	56	43	1	3	7	70	80	32	125	80	32	125	R- Maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
20	593	9000	52	38	10	10	25	71	9000	64	34	2	5	7	71	230	25	170	150	25	170	Bilateral maxillary sinusitis	Nil	+	NAD	NIL	Nil	NAD

INVESTIGATION CHART FOR OUT PATIENTS

S.No	IP No	Blood Investigation								AT					Bio – chemical analysis						X – ray PNS	Urine Analysis						
		BT																				BT			AT			
		TC cells/cum m	DC%			ESR-MM		Hb %	TC cells/cu mm	DC%			ESR-MM		HB %	BT – mg%			AT-mg%			A/b	Sug	Dep	A/b	Sug	Dep	
			P %	L%	E %	½ hr	1 hr			P %	L	EI	½ hr	1 hr		sug	ur e	Cho	Sug	U re								Cho
1	63469	9600	60	36	4	8	18	78	9200	60	38	2	3	5	80	80	20	150	86	22	140	Frontal & Bilateral maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
2	63516	9200	61	30	9	20	40	71	9200	64	33	3	5	7	71	85	22	120	80	20	120	Frontal sinusitis bilateral	Nil	Nil	NAD	Nil	Nil	NAD
3	63539	8800	50	40	10	5	11	81	8900	60	48	2	3	5	81	80	32	125	80	32	125	Frontal & Bilateral Maxillary	Nil	Nil	NAD	Nil	Nil	NAD
4	64187	9000	56	34	10	60	98	68	9000	64	34	2	5	7	68	92	32	130	90	32	135	Frontal & R maxillary	Nil	Nil	NAD	Nil	Nil	NAD
5	63489	9000	54	44	2	4	9	68	9000	54	45	1	3	5	70	84	30	120	86	36	110	Frontal & L sniusitus	Nil	Nil	Few puscells	Nil	Nil	NAD
6	64441	8800	54	36	10	15	35	71	8900	62	36	2	4	7	71	90	18	150	85	20	140	Frontal & maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
7	64028	9200	50	42	8	5	11	75	9200	56	43	1	3	5	75	70	30	140	75	25	135	Frontal sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
8	64461	9200	58	38	4	2	5	72	9200	60	39	1	3	5	72	70	20	149	72	18	140	Frontal sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
9	64790	9000	52	38	10	10	25	71	9000	60	38	2	2	5	71	230	25	170	200	18	160	Frontal L Maxillary sinusitis	Nil	++	Few puscells	Nil	+	NAD
10	64057	9200	54	38	10	25	52	75	9000	60	39	1	3	5	75	156	58	160	140	40	160	Frontal & R Bilateral maxillary	Nil	+	NAD	Nil	+	NAD
11	65105	8800	60	32	8	25	52	68	8800	64	35	1	4	7	68	150	32	140	160	25	130	Frontal & Bilateral sinusitis	Nil	+	Few puscells	Nil	+	NAD
12	64513	7800	58	36	6	8	15	75	8200	62	36	2	4	7	75	79	20	140	80	22	140	Frontal Sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
13	63612	8800	60	38	2	15	32	76	9000	60	39	1	5	7	76	90	18	146	85	18	146	Frontal & R maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD
14	65104	8900	60	32	8	10	15	71	8900	65	34	1	3	5	71	150	22	142	145	22	142	Frontal & R maxillary sinusitis	Nil	+	NAD	Nil	Nil	NAD
15	65579	9000	60	36	4	4	10	81	9000	63	36	1	3	5	81	200	21	150	200	21	140	Bilateral maxillary	Nil	+	1-2	Nil	Nil	NAD

																						sinusitis			puscells				
16	65484	8800	58	34	8	15	25	81	8800	62	36	2	2	4	81	80	18	130	80	18	130	Frontal & Bilateral sinusitis	Nil	Nil	NAD	Nil	Nil	NAD	
17	67998	9900	54	45	1	5	13	75	9900	55	44	1	2	5	75	95	25	150	80	20	150	Frontal & L Maxillary sinusitis	Nil	Nil	Few puscells	Nil	Nil	NAD	
18	64039	9000	50	38	12	15	25	72	9000	60	38	2	3	5	72	120	20	150	80	18	150	Frontal & L Maxillary sinusitis	Nil	Nil	NAD	Nil	Nil	NAD	
19	69004	9200	55	39	6	10	25	70	9200	60	39	1	2	4	70	110	25	135	100	20	135	Frontal Sinusitis	Nil	Nil	NAD	Nil	Nil	NAD	
20	69007	8900	60	30	10	5	11	75	8900	60	38	2	3	5	75	200	25	150	180	25	150	Frontal sinusitis	Nil	Nil	NAD	Nil	Nil	NAD	