A STUDY ON AZHAL THALAI NOKKADU

(MAXILLARY SINUSITIS)

DISSERTATION

Submitted to

Tamilnadu Dr.M.G.R.Medical University for the partial fulfillment of Requirements to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH I – MARUTHUVAM

POST GRADUATE DEPARTMENT OF MARUTHUVAM
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SEPTEMBER – 2008

ACKNOWLEDGEMENT

I express my deep sense of gratitude to **Dr.A.M.Abdul Kaadhar M.D.(s),** Professor/Principal**,** Head of the department, Post Graduate, Pothu Maruthuvam, Govt. Siddha Medical College, Chennai-600106, for providing us an opportunity and infrastructure to work on this dissertation.

I would like to express my indebtedness to my beloved **Prof.Dr.K.Rajarathinam (a) Revathi M.D(s)** (Ex-Principal) for encouragement & help regarding this study.

I take this opportunity to thank my guides **Dr.P.Parthiban M.D (s), and Dr.K.Kanagavalli, M.D.(s)** Reader, for kind suggestions and the invaluable support rendered during the complete duration of this Dissertation.

I extend my gratitude to **Dr.R.Neelavathi, M.D. (Siddha)** Lecturer, for showing much interest for completing my dissertation.

I am also thankful to **Mr.S.Selvaraj, M.Sc.,** Asst.Professor of Biochemistry, GSMC, Chennai who helped for my work.

I also record my thanks to given **Dr.S.Ramalakshmi Ammal M.O.** for encouragement and help regarding this study.

I express my thanks to **Dr.P.Vidhya, M.B.B.S., DMRD** who helped me in Radiological study.

I express my thanks to **Dr.Ilavarasan, M.pharm, P.hD & Dr.Meenakshi Sundaram,** Principal, A.J.College of Pharmacy, Sholinganallore, for their support to do the Pharmocological & Micro Biological study for the completion of my dissertation work.

I wish to convey my thanks to **Mr.Thirunavukkarasu M.Sc**. (Baid Metha College) to helped me for the Bio-statistical study.

I also wish to thank all the **library staffs** for their help for my study. Last and most importantly, I am indepted to all my patients for willingly accepting themselves for this study.

Also I wish to express my thanks to my heartful **family members and friends.**

Finally I thanks to **Mr.A.Sujin & Mr.R.Senguttuvan** (Power DTP & Xerox Centre) for their kind help in completion of my work.

C O N T E N T S

CERTIFICATE

Certified that I have gone through the dissertation submitted by Dr.M.A.Malliga a student of final M.D(S), Branch-I Maruthuvam, Government Siddha Medical College, Chennai and the dissertation work has been carried out by individual only.

Place: Chennai

Date:

Professor & Head of the Department
Post Graduate Department
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INTRODUCTION

The siddha system of Medicine is a distinct science and an unique art of healing founded by great spiritual scientists called Siddhars. Siddha system is a well defined complete medical system which not only explains medicine, also explain the way of healthy life to reach enlightment.

Before the therapy method, they insist on correct food habits, since this preventive method is the basic therapy in siddha system, commonly known as

"cznt kUªJ, kUªnj czÎ"

It explains preventive and curative methods for both physical and mental disorders.

"kW¥gJ clš nehŒ kUªbjdyhF«
kW¥gJ csnehŒ kUªjbd¢rhY«
kW¥gJ ïånehŒ thuhÂU¡f
kW¥gJ rhitÍ« kUªbjd yhbk! ÂUkªÂu«

Siddha System is based on three principles Vatham, Pitham, Kapham. Any alteration in their ratio induce diseases.

Siddhars classify the disease and treat them according to the deranged Kuttram.

Yugi Munivar is the first siddhar to classify disease based on clinical signs and symptoms along with the humoral pathology. His classification of diseases in Yugivaidya Chinthamani is so extensive and very clear which

could be compared to present classification of diseases in Modern Medicine.

> "Since human animal prides himself an using his head" it is ironic and perhaps not without meaning that his head should be the source of so much discomfort".
>
> - H.G. Wolff (1948)

Head ache will occur due to E.N.T. disease in which the nose and paranasal sinus diseases are common cause of head ache. Para nasal sinuses diseases are more prevalent due to polluted environment which is the most common cause for sinusitis.

Yugi dealt with this discomforting symptom as THALAI NOKKADU under his Vatha classification which is the most common syndrome of pain. Yugi gave a detailed description of various types of headache and its treatments.

The author selected "AZHAL THALAI NOKKADU" where clinical features can be compared to head ache due to maxillary sinusitis for his dissertation work and have done a preliminary study about the disease and efficacy of trial drugs. For treating the Azhal Thalainokkadu patients the author selected two trial drugs.

They are,

SIRA NOI CHOORANAM – 1- 2 gm with hot water 2 times a day after food.

PEENASA THYLAM - 3 drops each nostril

AIM AND OBJECTIVES

The aim of this work is to select the cases of Azhal Thalai Nokkadu (Maxillary Sinusitis), patients and administer them with the trial drugs as per the line of treatment and analyse both clinically and experimentally to prove the efficacy of the drugs.

“v©rh© cl«ò¡F Áunr Ãujhd«”

The above proverb insisted that head is the essential organ of human body.

Headache is severe and pleasure threatening to the sufferer. Headache patients were considered more troublesome and prevent a large number of employees from functioning.

So, I select this topic and take a clinical study on “Azhal Thalai Nokkadu” which has been more useful to human race.

The main objective of the present study is to create an awareness about the siddha medicine and to highlight the efficacy of siddha medicine for the disease ‘Azhal thalai nokkadu’ among the public with the basic intension in mind.

The following specific objectives have been drawn.

- To collect and compare various siddha and modern literature.
- To have an idea of incidence of Azhal Thalai Nokkadu. With reference to age, sex, occupation and socio economic status.

- To have a detailed study on investigation, diagnosis, and prognosis of the disease.
- To study a thorough investigation by siddha fundamental and modern investigation during and after treatment in all patients.
- To evaluate the biochemical analysis, Pharmacological and microbiological analysis of drugs.
- To conduct a clinical trial on 'Azhal Tholai Nokkadu' patients with

SIRA NOI CHOORANAM	1 to 2 gm with hot water 2 times a day. Morning and Evening
PEENASA THYLAM	- 3 drops each nostril for 10 days

The result and observation are recorded and illustrated with necessary table and graph.

SIDDHA ASPECTS

Head ache is the most common pain syndrome. It is also the most frequent symptom in neurology where it may be a disease itself or indicating an underlying local or systemic diseases. Many siddhar described about head ache and Yugi explained the head ache under the classification of vadha diseases. He explained in detail about the aetiology, clinical features, prognosis of the diseases.

VATHA NOIGAL

Synonyms: Vali Noi

Definition:

When Valikutram is deranged it manifest twitching and throbbing pain shivering and function of all part of body will be affected, there by producing so many diseases.

eu«ò Jthu§fëš bf£l Ú® j§» jiræš C¿ thÍ mÂfç¤J tè, mrÂ, r®t m§f nehia¥ g‰¿ thj¤ij éisé¤jyh«.

CLASSIFICATION OF VADHA DISEASES

According to Yugi Vaidya Chinthamani

"Mk¥gh thjbk‹g¤J ehY«"

- ô» it¤Âa Á^{a}jhkâ, g¡f« 131

According to Agasthiyar 2000

"v©gJ thj äU tif¥ gL¤Â¡ fhâš"- ghlš 87, g¡f« 32

In 4448 diseases

"és«ÃL« thjnehÎ v©g¤Â ehY ä¡f" - g¡f« 5

According to Theraiyar Vaidya Kaaviyam

"cw§F« thjbkhêa bt©gJ¡F" - g¡f« 89

According to Bogar 700

"k£lkh« thj« v©gJÎ« nghF«"

In Agasthiyar 2000

"és«ÃL« thjnehÎ v©g¤J ehY ä¡f" ghlš 10, g¡f« 46

In Raja Vaithya bodhini (Page.20) and Anubava Vaithya Dheva Ragasiyam (Page173) 84 types of vatha diseases were dealt with

In Dhanvanthri Vaithyam (Page 27), **Soothamuni Soothiram** (Page 6) and **Roga Niranya Saaram** (Page 40) 80 types were discussed.

T.V.Sambasivam pillai mentions 84 types of vatha diseases in his dictionary. (Vol.v.page-3869)

Agasthiyar Classified
84 types of vatha diseases in **Agasthiya Maha Munivarin Guru** Nadi 235 as (Page10)

"k‰Wnk thjnuhf tifÍ« v©g¤Âehyhnk"

AETIOLOGY OF VATHA DISEASES

I. According to **Yugi Vaidhya Chinthamani**

"v‹dnt thjkJ v©gjhF«
Ïf¤Âny kåj®¡F vŒÍ«thW
bgh‹dnt bgh‹jidna nrhu« brŒJ«
bgçnah®fŸ Ãuhkziu¤ Jõâ¤J«
t‹dnt tŠr¤Â‰ nrhu« brŒJ«
khjhÃjh FUit kwªj ng®¡F«
f‹dnt ntj¤ij ãªij brŒjhš
fha¤Âš fyªÂLnk thjªjhnd"

"jhbd‹w if¥nghL Jt®¥ò t®¥ò
rhjfkhŒ äŠR»Y« rik¤j m‹d«
Mbd‹w M¿dJ òÁ¤jyhY«
Mfhr¤ nj‰wÚ® Fo¤jyhY«
ghbd‹w gfYw¡f äuhéê¥ò¥
g£oåna äfÎWjš ghubkŒjš
njbd‹w bkhêa®nkš Áªijahjš
Ó¡»ukhŒ thjkJ brå¡Fªjhnd"

-g¡f« 92

1. Abusing the elderly people and priests.
2. Exploitation of charitable properties.
3. Ingratitude with mother, father and teacher.
4. Breach of trust.
5. Over consumption of bitter, Astringent, salty substances.
6. Eating Rancid food material.
7. Drinking rainy water.
8. Day time Sleep
9. Night Awakening
10. Undue Starvation

11. Lifting over Weight.

II. **Theraiyar Vagadam:**

j¡f thÍ nfhÃ¤jhš rªJ ÎisªJ jiynehth«
ä¡f _ç bfh£lhé é£l§ bfçÍ ky§f£L«'
x¡f eu«òjh‹ Kld§F ky®ªJ thŒ Ú U¿tU«
ä¡f FëU eL¡fKkhŒ nkåFs¿ tU§fhnz"

ghlš 42, g¡f« 16

1. Pain in the joints
2. Head ache
3. Excessive Yawning
4. Constipation
5. Burning sensation of the body
6. Paralysis
7. Excessive salivation
8. Chillness and tremors

In Pararasa Sekaram:

"bjhêšbg Wif¥òfh®¤ jšJt®¤jš éŠR»DŠnrhW«
giHajh« tuF k‰iw¥ igªÂid aUªÂdhY«
vêš bgw¥ gfY w§» Ïuéå Dw§fh jhY«
kiHãf® FHè dhns thj§nfh Ã¡F§ fhnd" g¡f«59

"fhznt äfÎ© lhY§ fUJ¥g£ oåé£lhY«
khdid ah®f© nkhf kw¡»D äFªÂ£lhY«
Mzt ky§f l«ik a§‡nd élhj jhY«
thWj‹ kleš yhns thj§nfh Ã¡F§ fhnz" g¡f«60

"ghçåš ga¥g£ lhY« gyUl‹ nfhÃ¤ jhY«
fhbud¡ fU» naho¡ fGku¤ Ju¤Â dhY«
V‰bgW jdJ beŠÁ‹ äf¤ J¡f kilªÂ£ lhY«

1. Excessive Consumption of bitter, Astringent substances and rancid food material.
2. Day time sleep
3. Night awakening
4. Excessive food intake (voracious appetite)
5. Starvation
6. Excessive sexual indulgence.
7. Fear
8. Angry
9. Worries
10. Exposure to dry weather

III. Sarabendra Vaidhya Muraigal –Vatha Roga Sigichai describes the factors for vitiation of vali.

1. Excessive intake of too dry, hot and cold substances.
2. Lack of Food intake.
3. Excessive sexual indulgence.
4. Excessive awakening
5. Diminished or Excessive intake in taking purgative or vomiting medication.
6. Excessive blood loss during medication.
7. Jumping, Prolonged running, walking.
8. Extraneous work
9. Weakness due to worry, diseased condition, exhaustion.
10. Suppression of 14 Vegas.
11. Indigestion
12. Trauma
13. Suppression of hunger
14. History of Trauma during Motor Vehicle Accident.

THALAI NOKKADU

According to Yugi Vaidhya Chinthamani 10 types of Thalainokkadu are explained as follows:

"Á¿anjh® thj¤Â‹ jiyneh¡fhL
óznt Ã¤j¤Â‹ jiyneh¡fhL
òfHhd nr£Lk¤Â‹ jiyneh¡nfhL
fhz r‹å thj¤Â‹ jiyneh¡nfhL
jU u¤j Ã¤j¤Â‹ jiyneh¡fhnl
neh¡fhd »Uäfª jiy neh¡fhL
Ej‰ Nçat®¤j bkhL rªÂut®¤j«
C¡fhd f®dh thjª j‹ndhL
xU jiyæ‹ dht®¤j thjK nkahF«"

ô» it¤Âa Áªjhkâ g¡f« 95

1. Vali thalai nokkdu
2. Azhal thalai nokkadu
3. Silethuma thalai nokkadu
4. Sannivatha thalai nokkadu
5. Raktha pitha thalai nokkadu
6. Kirumikantha thalai nokkadu
7. Suriyavartham
8. Chandravartham
9. Karnavartham
10. Oruthalai vatha petham

In Dhanvanthri Vaidhyam,

"fÂ¤ÂL äu¤jª j‹id fyªÂL« thÍ¢ br‹å
gÂ¤ÂL« eu«Ãny¿ gÂ¤ÂI¢ bréf© _¡F
éÂ¤jgš ÃlçF¤Â ntfkhŒ be‰¿Í¢Á
ÍÂ®¤ÂahŒ¤ jiytè¡FŠ Ánuh¡uA thjkh«"

g¡f« : 36

In T.V.Sambasivampillai Dictionary

Pain in the head arising from various causes such as changes in the Composition of blood, disorder of the nerves in the head and of the three humours in the system, action of the germs etc.

As per the above quotation wind or vayu mix up with blood and spread to neurons and causing pain over the area of Ear, Eye, Nose, Teeth. Occipital region and also over the region of frontal, vertex and entire scalp.

GENERAL SYMPTOMS

Even though the clinical picture of 10 types of Thalainokkadu are explained in detail in Yugivaidya Chinthamani the General signs and symptoms of headache are not given but it is given in Roga Nirnaya Saaram as follows:

1. Heaviness of head
2. Head ache
3. Giddiness
4. Throbbing pain
5. Bitter taste

Types of Thalai Nokkadu in various Literature.

In <u>Sarabendra Vaidhya Muraigal</u> 10 types are classified and explained.

1. Vatha Sirasthabam
2. Arthavabethagam
3. Pitha Sirasthabam
4. Kapha Sirasthabam
5. Raktha Sirorogam
6. Sannibatha Sirasthabam
7. Kirumi Sirorogam
8. Sirakambarogam
9. Sangagam
10. Suryavartham

In <u>T.V. Sambasivam Pillai Dictionary</u> 11 types are described.

1. Vatha Sirorogam
2. Pitha Sirorogam
3. Kapha Sirorogam
4. Sanni Pathigam
5. Raktha Sirorrogam
6. Kshaya Sirorogam
7. Kirumi Siroogam
8. Surya Vartham
9. Anantha Vatham
10. Arthava Pedagam
11. Sangasam

In <u>Anubava Vaidhya Deva Ragasiyam</u> 8 types are explined:

1. Vatha Sirorogam
2. Pitha Sirorogam
3. Kapha Sirorogam
4. Sannipatha Pathigam
5. Raktha Sirorogam
6. Kirumi Sirorogam
7. Surya Vatham
8. Anantha Vatha sirorogam

In <u>Roga Nirnayasaaram</u>

1. Artha betharogam
2. Surya vartharogam
3. Sangarogam
4. Sirakambharogam
5. Kirumi thalai vali
6. Udira thalai vali
7. Vatha thalaivali
8. Pitha thalai vali
9. Silethuma thalaivali
10. Tridosha thalaivali
11. Tharuna rogam
12. Uba sirisha rogam
13. Arumshigai rogam
14. Moortha Peedaga rogam
15. Sirovithiradi rogam
16. Sirorputha rogam
17. Indralutha rogam
18. Palidha rogam
19. Kaladi rogam

Azhal Thalai Nokkadu

In Yugi Vaidhya Chinthamani

"t©ikahŒ ã‰»‹w _¡F¤jhD«
toªJnk Ú® ghŒªJ jiy fd¤J
bt©ikahŒ thŒÚ® jh‹ äfÎ« C¿
Û¿na c©zh¡if¥ g‰¿ behªJ
Â©ikahŒ¢ bréjåny F¤jY©lhŒ¢
ÁuRjh‹ ghukhŒ äf¡fd¡F«
f©ikahŒ¡ f©nzhL òUt§F¤J«
fdkhd Ã¤j¤Â‹ jiyneh¡fhnl" g¡f« 125

CLINICAL FEATURES:

1. Rhinitis.
2. Heaviness of the head
3. Increased salivation
4. Throat pain
5. Pain in the ear
6. Pain over the eyebrows and medial canthus of the eye.

AETIOLOGY OF THALAI NOIGAL

In udal thathuvam the author explained suppressions of 14 vegas will produce diseases.

Especially,

Thummal, Malam, Nithirai, Vizhineer

1. **Thummal (Sneezing)**

"J«kiy¤ jiljh‹ brŒjhš
bjhF¤ÂL« jiy nehÍ©lh«" g¡f« 331

2. **Malam (Defaecation)**

"kykij al¡»dhny ..
jiytè äfÎ©lhF«" g¡f« 333

3. **Nithirai (Sleeping)**

"ã¤Âiual§»¥ nghf ...
ã¤jKª jiy¡fd¥ò" g¡f« 334

4. **Vizhineer (Lacrimation)**

"éêæåš Úul¡»š .. ..
mG»L« ÁuÁš nuhf«" g¡f« 336

In Sarabendra Vaidhya Muraigal Siroroga Chikitchai

- Fumes, Scorching sun
- Swimming too much of time
- Winter season
- Somnolence

- Suppression tears
- Excessive intake of water and Liquor
- Infection
- Suppression of 14 Vegas especially Sneezing, Belching
- Using high Pillows
- Avoid to take oil bath.
- Worries, Sorrow
- Smelling Fragrance
- Excessive food intake Page: xxxviii

In Anubava Vaidhya Deva Ragasiyam

- Exposure to fume, scorching sun, cold.
- Sleep disturbances.
- Excessive somnolence
- Exposure to rainy water
- Exposure to dry weather
- Suppression of tears
- Infection
- Suppression of 14 Vegas
- Smelling fragrance

In Roga Nirnaya Saram Ennum Roga Nithanam

- Excessive sexual indulgence
- Sleep disturbances
- Smoking
- Exposure to Chill Weather and Scorching Sun Page 37

In "Nagamuni thalai noi Maruthuvam",

"fd¤ÂLŠ Rik fshY« fLbtæ YHšj yhY«
ãid¤ÂL« v©bzŒ j‹id ehŸ g£L KGf yhY«
òd¡bfho klešyhiu élhJw¥ òšif ahY«
Ád¤jo gLif ahY« ÁuÁšnehŒ nrU« fhnz"

“ÏU bré ehÁônl pt©L na¿dhY«
KUfäœ FHè® fhd‰ Ridæil KG»dhY«
kUéa yhfç ahY« kaYw tUªÂ dhY«
Áuäir andf njhl« nr®ªÂL« ÂUé dšyhŒ” g¡f«2

- Lifting heavy weight
- Exposure to scorching sun
- Avoiding Oil Bath
- Excessive sexual indulgence
- Angry
- Flies, fomite enter into the ear, nose
- Taking bath in mountain spring water
- Intake of alcohol, cannabis
- Worries

MUKKUTRA VERUPADUGAL

“fh‰WW nfhg¤ jhšthŒ fr¥Ãyh Âå¥bgŒJ«
njh‰WW ò¤Â kªjŠ brhšYiu fh£Lª
nj‰WW thŒik Ú§FŠ Áunuhf¡ nfhgK©lh«
T‰WW fhy khd FzKe‰ FzK« g©gh«”

m§fhÂ ghj« g¡f« 65

As per the above stanza, Vali is said to be the phenomenon responsible for causing Azhal thalai nokkadu. Excessive accumulation of one of the humour is vali or wind causing accumulation fluid in the cavity (i.e Sinus cavity) and producing pain over the Sinus area.

Pranan, Viyanan & Udanan are affected and producing the symptoms and signs of Azhal thalai nokkadu. Pranan is mainly responsible

for respiration, passing food material in GIT i.e. peristalsis, reflexes like sneezing and coughing. Viyanan is mainly responsible for locomotion, free movements of all Organs, Udanan is mainly responsible for consciousness, personality maintenance and also for sneezing and cough reflex.

Azhal is responsible for the healthy maintenance of every tissues of the body and its variation results in inflammatory changes in bony cavity and cartilages. Thereby, sathaga pitham is deranged in Azal thalai nokkadu.

The deterioration of the two main kutram may also accompany derangement of Iyakutram leads to structural changes in the bony cavity.

Disturbances in mukktram produce different clinical manifestations. These include, head ache, sneezing, running nose, due to disturbed vali. In flammation and redness of the mucous membranes due to disturbed Azhal.

Inflammatory changes of the cavity causing heaviness of the head, headache due to disturbed Azhal. Accumulation of exudative fluid in sinus cavity due to disturbed Iyam.

Normal structural and physiological state of the body is maintained by equilibrium with mukkutram and seven udarkattukkal.

As the udarkattukkal are affected by the extrinsic and intrinsic factors. There will be deterioration in the structural and functional status of the body. When the causative factors take hold of udarkattukkal and mukkutram it results in inco-ordination of functions there by the disease manifest and expose its Clinical Features.

PINIYARI MURAIMAI (DIAGNOSIS)

The methodology of diagnosing in Siddha system is very unique. It is based on the 3 main principles.

1. Poriyal therthal
2. Pulanal therthal
3. Vinaathal

Poriyal Therthal:

Includes organs of perception. Poriyal therthal understands by the five organs of nose, tongue, eyes, skin and ear.

Mooku (Nose):

Nasal discharge whether it is watery, mucoid (or) mucopurulent.

Sneezing, septal deviations, nasal polyp, mucosal oedema are observed in Azhal thalai nokkdu.

Vai (Tongue):

If anemia present paleness of tongue will be present.

Kan (Eye) :

Irritation on conjunctiva, lacrimation, pain over the medial canthus of the eye are observed in Azhal thalai nokkadu.

Sevi (Ear):

In few cases of Azhal thalai nokkadu pain in the ear is noted.

Mei (Skin):

Hyperaemic area over sinus region is observed in Azhal thalai nokkadu.

PULANAL ARITHAL:

Manam (Smell)	:	Smell is altered in few cases due to mucosal oedema of the nostrils.
Suvai (Taste)	:	Taste is altered in few cases
Oli (vision)	:	Vision is impaired in few cases due to ageing.
Ooru (Somatic Sense)	:	Tenderness over Sinus region & fever.

Osai (Sound) : Normal

The above said method and the physician's pori and pulan, are used to examine the pori and pulan of the patients.

VINAATHAL:

"Vinaathal" simply represents the interrogation. It obtains the detailed history of the diseases and in such a way easy diagnosis is made even before clinical examinations are carriedout. But, by this method, the history of diseases, Complaints and duration, family history, personal history, clinical features are ruled out. Patient's name, age, sex, occupation, address, socio-economic status, chief complaints are ruled out.

ENVAGAI THERVUGAL

The classical method of clinical examination in our system is known as "Envagai thervugal".

Various literature explains about envagai thervugal is the best method to obtain the correct data of the clinical entity.

In Gunavagada Naadi

"juâÍŸs éahÂ j‹id a£lh§ f¤jhš
jhd¿a nt©LtJ nanjh bt‹åš
Âuâanjh® eho f©fŸ r¤j¤njhL
njf¤ÂdJ gçr« tUz« eh¡F
Ïuzky _¤Âukh äit fbs£L«
Ïj«glnt jh‹ gh®¤J¡ F¿¥ò§f©L
guzUshš bgçnah®fŸ ghj« ngh‰¿¥
g©ò jtwhkš g©ojŠ brŒÅnu"
nehŒ ehlš nehŒ Kjš ehlš -g¡f« : 129 ghf« 1

In Therayar,

"eho¥ gçr« ehãw« bkhê éê
ky« _¤Âuäit kU¤Jt uhÍj«"
nehŒ ehlš nehŒ Kjš ehlš- g¡f«: 253 ghf« 1

In Dhanvanthiri Vaidhyam

"ÂUKiw Kåt‹ TW« thfl¢ brŒif j‹åš
tUgy éahÂahd tifa¿ Ftnj bj‹åš
tUÎW eho ahY bkh©Kf ky Ú uhY«

bjçéê ehé dhYª jªjy¡ fz¤ÂdhY«”
j‹tªÂç it¤Âa« -g¡f«: 2

In Agathiar Naadi

“ehoahš K‹ndh® brh‹d e‰F¿ Fz§fshY«
Úoa éêædhY« ã‹w eh¡ F¿¥ÃdhY«
thoa nkåahY kybkhL ÚçdhY«
Noa éahÂ j‹id¢ Rf« bgw t¿ªJ brhšny”
nehŒ ehlš nehŒ Kjš ehlš -g¡f« : 129 ghf« 1

As per the above literature “Envagai Thervugal” which consists of 8 diagnostic parameter is the best method for diagnostic procedure.

The parameters are,

1. Sparisam
2. Naa
3. Niram
4. Mozhi
5. Vizhi
6. Malam
7. Moothiram
8. Naadi

Sparisam

Sparisam examinations includes 1. Temperature of the body 2. Smoothness or roughness of the skin 3. Oedema 4. Tenderness 5. Any abnormal growth of the organ 6. Tactile sensation.

In case of Azhal thalai Nokkadu oedema and tenderness over the sinus area is observed.

Naa:

Colour, Character, Sensation, Fissure, ulceration, motor function of the tongue to be observed in naa examination.

In few case of Azhal thalai nokkadu taste sensation is altered and excessive salivation is noted.

Niram:

Colour of the skin all over the body and local region of affection should be observed.

Local region of affection due to inflammation is seen in Azhal thalai nokkadu.

Mozhi (Voice) :

Components of speech should properly ascertained. Alteration in voice is observed in Azhal thalai nokkadu.

Vizhi:

Colour, character, vision (Field of vision, Colour of vision, Acuity of vision) and lacrimation should be observed in vizhi examination.

In few cases of Azhal thalai Nokkadu, excessive lacrimation is observed.

Malam:

Quantity, Colour, froth, consistency of stool whether it is watery, semisolid or solid are observed.

Moothiram:

“mUªJ kh¿ujK« ménuhjkjhŒ
m~fš my®jš mfhyñ© jé®ªjH‰
F‰wstUªÂ cw§» itfiw
Mo¡fyr¤ jhéna fhJ bgŒJ
xU KT®¤j¡ fiy¡F£gL Úç‹
ãw¡F¿ beŒF¿ ãUä¤jš flnd” njiua®.
nehŒ ehlš nehŒ Kjš ehlš- g¡f« : 265 ghf« 1

Before the urine sample are collected for urine analysis patient is advised to take a balanced diet and good sleep. Early morning samples are collected when the patient getup from the bed.

Mid stream urine is collected for avoidance of extraneous materials from the first flow of urine.

Moothiram examinations includes,

1. Neerkuri
2. Neikuri

This can be done with in one and half an hour collection of urine sample.

NEERKURI:

“tªj Ú® fçvil kz« Eiu vŠrby‹
iwªÂa Ysit aiw FJ Kiwna”

nehŒ ehlš nehŒ Kjš ehlš -g¡f« : 265 ghf« 1

Niram	-	Colour of urine
Edai	-	Specific gravity of Urine
Manam	-	Odour of urine
Nurai	-	Frothy nature of urine
Enjal	-	Deposits of Urine

NEIKURI:

The urine sample are collected as per Neerkuri method.

A drop of gingely oil is dropped on the urine sample, kept in the sunlight and left to be undisturbed.

Neikuri is observed by spreading nature of oil in the urine sample.

“ãw¡F¿¡ Fiu¤j ãUkhz Úç‰
Áw¡fbt© bzŒnah® ÁWJë eLéL¤
bj‹Ww¤ Âwªbjhè nafh jik¤jÂ
å‹wÂ tiyngh« be¿ éêa¿Î«
br‹wJ òfYŠ brŒÂia Íznu”

nehŒ ehlš nehŒ Kjš ehlš -g¡f« : 279 ghf« 1

<u>In Vali neer</u>

The drop of oil spreading like serpent, indicates vali neer.

“mubtd Ú©o‹ m~nj thj«”
“mQFbeŒ gh«Ã‰ fhâš måynehŒ”

nehŒ ehlš nehŒ Kjš ehlš g¡f« : 279 ghf« 1

<u>In Azhal Neer,</u>

The drop of oil spreading like signet ring, It indicates Azhal neer.

"Mênghš gué‹ m~nj Ã¤j«"
"t£lkhæ‹ jâéyh¥ Ã¤j nehah«"
nehŒ ehlš nehŒ Kjš ehlš- g¡f« : 280 ghf« 1

In Iya Neer

The drop of oil spreading like pearl, indicates Iya neer.

"K¤bjh¤J ã‰»‹ bkhêtbj‹ fgnk"

nehŒ ehlš Kjš ghf« -g¡f« 280 ghf« I

In Thontha neer

The drop of oil spreading like ring in the snake, snake in the ring, pearl in snake, pearl in the ring indicates Thontha neer.

"muéyhêÍ« Mêæš muÎ«
mué‹ K¤J« Mêæš K¤J«
njh‰¿š bjhªj njhl§f shnk"
nehŒ ehlš nehŒ Kjš ehlš- g¡f« : 280 ghf« 1

NAADI

Naadi is the best parameter in all parameter of Envagai thervu. Naadi diagnosis is the confirmatory diagnosis. This method reflects the characters of 3 humours by palpating, the artery especially radial artery in the right hand of male and left hand of female.

The only method gives a good conclusion about the disease without any help of patient. It is the bounding force between the soul and body.

Naadi is felt as Vali, Azal and Iyam respectively with the tip of the index, middle and ring finger over the lower end of the radius.

The ratio between the Vali, Azhal, Iyam are 1: 1/2 : 1/4 respectively.

Naadi Nadai in AZHAL THALAI NOKKADU – KAPHA VATHAM

"f©lhnah Ány‰gd¤Âš thjeho
fyªÂL»š tæW bghUkš fd¤jÅ¡f«
.. .. .. **Â©lhL ehÁfhÕ l§f¡fš**

ÁunehŒfŸ gyÎ« tªJ Á¡Fªjhnd”
(nehŒ ehlš nehŒ Kjš ehlš -g¡f«: 175 ghf« 1)

PITHA IYAM

“**g©ghd** Ã¤j¤Âš nr¤Jk eho
.. ..**ciskhªij ÕårK« u¤j Å¡f«**
nehŒ ehlš nehŒ Kjš ehlš -g¡f«: 174 ghf« 1

Envagai thervugal are the most used, Diagnostic implements in Siddha system of medicines. Besides envagai thervugal, a disease can also be diagnosed by other methods namely.

Thinaigal, paruvakalngal, Uyirthathukkal, Udal thathukkal and Poripulangal. Combinations of all these diagnostic criteria are very helpful to attain a proper diagnosis with complete entity based on principles of siddha science.

Siddhars classified a year into six seasons (i.e., Paruva Kaalam) each constituting two months. The humoural theory (i.e., vatha pitha, kapham) has got some changes in paruvakaalam, (Thannilai valarchi, vetrunilai valarchi, Thannilai adaithal) the humoural changes in paruvakaalam causing certain diseases. Study of it will be of much use for diagnosis.

PARUVAKAALAM:

S.No.	KAALAM	KUTRAM	SUVAI
1.	Kaar Kaalam (Avani to Purataasi) (August to October)	Vatham ↑↑ Pitham ↑	Inippu Pulippu Uppu
2.	Koothir Kaalam (Iyppasi to Karthigai) (October – December)	Vatham (-) Pitham ↑↑	Inippu Kaippu Thuvarppu
3.	Munpani Kaalam (Margazhi to Thai) (December – February)	Pitham (-)	Inippu Pulippu Uppu

4.	Pinpani Kaalam (Maasi to Panguni) (February – April)	Kapham ↑	Inippu Pulippu Thuvarppu
5.	Elavenir Kaalam (Chitthirai to Vaigasi) (April – June)	Kapham ↑	Kaippu Kaarpu Thuvarppu
6.	Muthuvenir Kaalam (Aani to Avani) (June – August)	Kapham (-) Vatham ↑	Inippu

↑ Accumulation (Thannilai valarchi)

↑↑ Aggravation (Vetrunilai valarchi)

(-) Allieviation (Thannilai adaithal)

The prevalence of Azhal thalai Nokkadu is more in Munpani and Koothir Kaalam.

THINAIGAL – LANDS

Thinaigal affects the person as same as in paruvakaalam. It has been classified into 5 types depending on the surroundings vegetation, landscape and ecological state and occupational status.

S.No.	Thinaigal	Area	Common Diseases
1	Kurinji (Hilly Tract)	Mountain and its surroundings	Iya diseases, Liver diseases
2	Mullai – (Sylvian Tract)	Forest and its surrounding	Azhal, Vali, liver diseases
3	Marutham (Fertile Area)	Fields and its surroundings	Ideal place for healthy living
4.	Neithal (Coastal Area)	Sea and its surroundings	Vali, Liver diseases
5.	Paalai – (Arid area)	Desert and its surroundings	Vali, Azhal, Iya diseases

The prevalence of Azhal thalai nokkadu is more in Neithal Nilam.

UDAL VANMAI

Siddhars classified the Udal vanmani into three kinds.

They are,

- Iyarkai Vanmai – One can acquire immunity by birth.
- Kaala Vanmani – One can acquire immunity at his different age and different seasons.
- Seyarkai Vanmai – One can acquire immunity through taking balanced diet, good activites and preventive medication.

UYIR THATHUKAL:

Basic principles of siddha science is Uyirthathukkal. The equilibrated state of Uyirthathukkal indicates their importance in the maintenance of health.

Disturbances in equilibrated state leads to development of diseases in the body.

1. Vali	2. Azhal	3. Iyam
(Substantative)	(Correlative)	(Generative)

Three vital humours occupy the lower, the middle and upper part of the body, Condition which depends upon the vitality of the organism determines the preservation of health and longevity of life.

The Vayu (or) Vatha refers to all the changes which comes under the functions of central and sympathetic nervous system. The word pitha signifies the functions of thermogenesis or heat production and metabolism. Kapha signifies the functions of thermotaxis on heat regulations. Vatha, Pitha, Kapha act upon each and every cells in the body.

VALI (or) VAYU

Vali is not mere wind but also causes motion, energy and sensation of every cell in the body. It is responsible for all movements of the body. Simply life energy is Vatham. Vali controls both kanmendhiriyam, Gnanaendhiriyam. Locomotor function through voluntary muscles are

governed by Kanmendhriyam and sensory functions are governed by Gnanendhriyam. Vatha pitha, kapha act upon each and every cells in the body. The three humours acts on nervous system via neurons control and responds to various stimuli. Vali controls nervous system through "Dhasa Vayu".

Seats of Vali

Below the naval region i.e., Urinary Bladder, Motion, Spermatic cord, Umbilical cord, Thigh Bone, Skin, Nerves, Joints, Muscles, Hair Follicle, Pelvis and Ear.

Properties of Vali

"xG§Fl‹ jhnjœ _¢nrh§» Ïa§f
vG¢Ábgw v¥gâÍ kh‰w vGªjça
ntf« òy‹fS¡F nkt¢ RWRW¥ò
thfë¡F« khªj®¡F thÍ"

Á¤j kUªJth§f RU¡f« g¡f«: 140

- Regulating inspiration and Expiration
- Making
- Regulation of 14 Vegas
- Make the Uniform functioning of seven udal kattukkal
- Protection and strengthening of five sensory organs

DIVISIONS OF VALI

The vali is divided into 10 types according to their location and functions.

SL.NO.	DIVISION	FUNCTIONS
1.	Pranan	Respiration, Digestion
2.	Abaanan	Expel stool, Urine, semen's stool..

3.	Viyanan	Nourishes whole body
4.	Udhanan	Speech, Expel Vomitus, Hiccup
5.	Samaanam	Assimilation of end products regulates other forces.
6.	Naagan	Blinking of eyes
7.	Koorman	Vision, Lacrimation
8.	Kirugaran	Nasal, Oral secretion
9.	Devathathan	Sleep, Fatigue
10.	Thananjayan	Oedema, Hyper acusis.

II. AZHAL

This is nothing but characteristics of fire such as burning, boiling and heating etc. It corresponds to the functions of Thermo genesis production of heat necessary to maintain the integrity of the human circulatory systems. Azhal is classified in to 5 types. It mainly governs enzymes 6 hormones.

S.No.	Name	Location	Function
1.	Anilam	Stomach, small intestine	Dissolvement and digestive
2.	Ranjagam	Liver, Spleen stomach	Colouring, pleasing, Iratifying
3.	Sathagam	Heart	Effective efficient
4	Alosagam	Eyes	Seeing consideration
5	Prasagam	Skin	Complexion of the skin

III IYAM

It imparts moisture. Iyam is located in Samanan, Semen, head, tongue, faf, bone, marrow, blood, nose, chest, nerves, brain, large intestine, eyes, stomach and parcreas.

S.No.	Name	Location	Function
1.	Avalambagam	Heart	Supports all the other Iyams
2	Kilethagam	Stomach	Moistens and nourishes the food.
3	Pothagam	Tongue	Takes care of perception
4	Tharpagam	Head	Gives satisfaction
5	Santhigam	Joints	Takes part in Stability, Lubrication and in movements of joints

MUKKUTRA VERUPADU IN PITHA THALAINOKKADU

Vatham:

1. Pranan (Uyirkaal)

Derangement causes rhinorrhoea, sneezing , cough, expectoration, excessive salivation and indigestion.

2. Abaanan (Kezhnokunkal)

Derangement causes constipation.

3. Vianan (Paravukaal)

Derangement causes pain in the medial canthus of the eye and eyebrow region, throat and the ears, heaviness of head, headache etc.

4. Udhanan (Melnokkungkaal)

Derangement causes excessive salivation, throat pain and voice changes.

5. Samaanan (Nadukkaal)

Derangement causes indigestion and loss of appetite.

6. Naagan

It is responsible for higher intellectual functions like hearing, thinking etc. It helps for closing and opening of the eyelids.

7. Koorman

Derangement causes irritation and watering of eyes excessively.

8. Kirukaran

Derangement causes rhinorrhoea, sneezing, nasal congestion, excessive salivation, and cough.

9. Devadhathan

Derangement causes insomnia.

AZHAL:

1. Anal Pitham (Aakanal)

Derangement produces indigestion.

2. Ranjaga Pitham (Vanna Eripitham)

Derangement causes anaemia.

3. Sadhaka Pitham (aatralanki Pitham)

Derangement causes disability to do normal works.

4. Prasaka Pitham (Ulloli thee)

It gives colour and complextion to the skin.

5. Alosaka Pitham (Nokkahal Pitham)

Derangement causes diminished vision.

IYAM:

1. Avalambagam (Ali Iyam)

Derangement causes cough with expectoration.

2. Kilethagam (Neerpi Iyam)

Derangement causes indigestion.

3. Pothagam (suvaikaan Iyam)

Derangement causes loss of taste.

4. Tharpagam (Niraivu Iyam)

Sustaining the head, it gives refrigerant effect to the cool the eyes.

5. Santhigam (Onri Iyam)

Derangement causes pain in joints.

EZHU UDAL KATTUGAL (Seven physical constituents)

The human body is made of seven basic physical constituents. They should be in normal condition. Any variartion in them will lead to their functional deviations. They are:

1. Saaram (Chyle)

This gives mental and physical perseverance.

Derangement causes fatigue, loss of appetite.

2. Senneer (Blood)

Imparts colour to the body, it nourishes the body and is responsible for the ability and the intellect of an individual.

Derangement causes Weakness, anaemia.

3. Oon (Muscle)

It gives shape to the body according to the physical activities and covers the bones.

4. Kozhuppu (Adipose tissue)

It lubricates the joints and other parts of the body to function smoothly.

5. Enbu (Bone)

Supports the frame and is responsible for the postures and movements of the body.

Derangement causes deviated nasal septum

6. Majjai (Bone marrow)

It occupies the medulla of the bones and gives strength and softness to them

7. Suronitham (Ovum) / Vindhu (Sperm)

It is responsible for reproduction.

NOI KANIPPU VIVATHANGAL

S.No.	Disease	Similar Symptoms	Disimilar Symptoms
1.	Vatha thalai Nokkadu	Pain in the nose and forehead, Earpain	Occipital head ache, psychological disturbances.
2.	Kapha thalai nokkadu	Head ache	Paleness, fever loss of taste, anorexia, it occurs due to increased intake of cold water, going to sleep immediately after taking food.
3.	Sannivatha thalai Nokkadu	Headache, ear pain	Psychological disturbances, tightness of chest, dysphonea,

			loss of speech, worms moving sensation in skin loss of consciousness.
4.	Raktha pitha thalai nokkadu	-	Coldness, increased thirst, hair goose, numbress, Epistaxis, Bleeding from ear and mouth, twitching, breathing will be slow, blackening of body.
5.	Kirumi Kantha thalai nokkadu	Frontal head ache, pain in the nasal bridge and orbital margins, increased salivation	Body pain, throbbing pain in upper and lower limbs, worms will comes out which look like Nanal Poo
6.	Suriyavartham	Pain in medial canthus of eye brows	Constricted pupil, heaviness of the body, pain reduced in evening time.
7.	Chandravartham	Sneezing, nasal congestion, pain in frontal region	Anosmia, pain aggravates during night time and relieved during day time.
8.	Karnavartham	Ear pain, frontal pain	Chest pain, Occipital pain, vertex pain, loss of appetite, Insomnia
9.	Oruthalai Vaatha Petham	Frontal head ache	Pain in one half of head, Blurring of eyes, increased Lacrimation, Cough, anorexia, hair goose.

PINI NEEKAM

LINE OF TREATMENT

The only system which dealt both body and mind is Siddha System.

In Thirukkural, Thiruvalluvar explained the disease and its prevention and diet regime.

They are

- “kUªbjd nt©lhth« ah¡if¡F”
- “m‰whys t¿ªJ©f t~Jl«ò”
- “m‰wj¿ªJ fil¥Ão¤J khwšy”

- “Ôasé‹¿¤ bjçah‹ bgçJ©â‹”
- “khWghošyhj c©o kW¤J©â‹”
- “Ïêt¿ªJ©gh‹ fâ‹g« nghå‰F§”

In siddha system, the main aim of the treatment is to whittle down, away udarpini (due to mukkutram). Treatment is given not only for complete healing but also for the prevention and rejuvenation.

This is said as follows:

Kaappu (prevention)

Neekkam (Treatment)

Niraivu (Restoration)

KAAPU (PREVENTION)

“kUªbjd nt©lth« ah¡if¡F mUªÂaJ
m‰wJ ngh‰¿ câ‹”

“vÂujh¡ fh¡F« m¿édh®¡»šiy
mÂu tUtnjh® nehŒ” ÂU¡FwŸ

Each person is composed of unique balance of these forces, which dynamically interact on physical, psychological and spiritual levels which are responsible for organization, regulation and integration of the body structures, Kaapu (Prevention).

Prevention and cure of diseases are the basic aims of any medical system but prevention has been the corner stone of siddha system. Siddhar have told us a rational scientific way for prevention of illness. They have described general preventive measures and special measures (which are applicable to diseases of certain organs).

NEEKAM (TREATMENT)

“nehŒ eho nehŒ Kjš ehoaJ jâ¡F«
thŒ eho thŒ¥g¢ braš”

“ c‰whdsÎ« Ãâas Î« fhyK«
f‰wh‹ fUÂ¢ braš”

So it is essential to know the disease etiology and the ways of treating the diseases ie medicines diet habits etc. and also the nature of the patient, severity of illness, and the season should also be kept in mind.

THE AIM OF PININEEKAM IS BASED ON

- To bring the three doshas in equilibrium.
- Treatment to the subordinate naadi according to the deranged uyir thathus.
- To build seven body constituents.
- Treatment of the disease and its symptoms by internal medicines and external oils.
- Diet and prevention of disease.
- To increase natural immunity.

“énurd¤jhš thj« jhG«” nehŒ ehlš I g¡f« 232

Vatha diseases can be brought down by Viresanam. So after purgation, the trial medicines are given to treat **“Azhal Thalainokkadu”**

They are:

1. Siranoi Chooranam (Internal medicine) 1 to 2 gm twice a day with hot water.
2. Peenasa Thylam 3 drops each nostril two times a day.

Preventive aspect is very much stressed in all siddha literature.

“K¡fhš kykJ bghšyhj thŒÎ _‹W J«kš
Á¡fh kyhW ryjiu é£L¢ ÁWeilÍ«
ik¡fhL bfh©l éêahŒ! kåj®¡F thŒ¥gbjåš
v¡fhy K«Ãâ thuhJ; fha« ÏU« bgh¡Fnk

- Á¤j kU¤Jth§f¢ RU¡f« g¡f« 192

These denotes Siddhar's giving more important to preventive aspects.

Anupanam also known as "Thunai Marunthu" is commonly translated as vehicle, adjuvant, supporting, concurrent drug therapy. In siddha system of medicine the adjuvant is one of the most important things during therapy.

"mDghd¤jhny aéœj« gè¡F«
Ïåjhd R¡F f‹dš ÏŠÁ, ÃDKjf§fhš
nfhäa« ghš Kiy¥ghš nfhbeŒ nj‹ bt‰¿iy Ú®
Mäij ahuhŒªJ brŒayh«.

njiua® bt©gh g¡f« - 210

The above stanza represents the substances commonly used as anupanam.

PATHIYAM

During the course of treatment the patients are advised to take following diet items and omit some of food items and physical activities. This form of medical advice in Siddha system of medicine is termed as pathiyam which is very important in Siddha system of medicine.

g¤Âa gy‹ :

" g¤Âa¤Â dhny gyD©lh F«kUªJ
g¤Âa§fŸ nghdh‰ gy‹nghF« - g¤Âa¤Â‰
g¤Âank bt‰¿jU« g©ojU¡ fhjèdh‰
g¤Âank Í¤Âba‹W gh®.

- njiua® bt©gh g¡f« - 159

" g¤Âa¤jh Y©lhF« g©oj‰F¥ nguh©ik
g¤Âa¤jh Y©lhF« g©oj§fŸ

- njiua® bt©gh g¡f« - 212

The Pathiyam commonly told in siddha literatures are,

1. Kadum pathiyam
2. Miga kadum pathiyam
3. Itcha pathiyam

4. Uppilla pathiyam

In Patharthaguna chinthamani the following dietary things are advised to avoid.

“fLF e‰¿y¤ bj©bzŒ Tœ gh©l§fŸ fliy
tLf jh»a bj§fkh tL¡if e‰fha«
koéyhj btŸSŸë bfhŸ òifæiy kJ bg©
ÏlW ghfnyhlf¤Â Ú¡»lè¢rh g¤Âa«”

njiua® bt©gh g¡f« - 159

fLF, gyh, fšahz órâ¡fhŒ, kh§fhŒ, v©bzŒ, òifæiy, fliy, nj§fhŒ, ó©L, fha«, mf¤Â, bg©nr®¡if , kJ Ïit Tlhjh«.

In Theraiyar Venba,

“Ïytz« òëfL bt©zhY Kjyhf
bthbthU Fzkh bahêthŒ – eéèiw¢Á
Tœ¥gh©l k¢r« bg© nfh¤Âu§ bfhŸ Ãukg¤ç
Ôœ¥ghF bk¤jéJÓ” g¡f« 213

c¥ò, òë, fLF, vŸ, v‹Däªj eh‹F Kjyhf kUªJ Kiw¡nf‰g x›bth‹whf Ú¡f¤ jFªjitfis Ú¡fÎ«. Ïj‹ nkY« Ïiw¢Átif, órâ¡fhŒ, Û‹tif, bg©ngf«, tuF, bfhŸs, òifæiy M»aitfŸ kUªJ K¿Î¥ bghUŸfshkhifæš mt‰iwÍ« Ú¡f nt©L«.

DIET

In Patharthaguna chinthamani, the following diets are advised to vatha patients.

“ br§fGÚ® nfh£lª nj‹ äsF ešby©bzŒ
j§f bgU§ fhaª jGjhiH v§bf§F«
T£LÁW K¤JbeŒ nfhÂš cSªÂitfŸ
th£L« må y¤ij kÂ” g¡f« 369

nj‹, ešby©bzŒ, beŒ

br§fGÚ® (Pontederia vaginalis) cSªJ (Phaseolus mungo)

nfh£l« (Costus speceosus) jGjhiH (Clerodendron phlomoides)

äsF (Piper nigram) ÁWK¤J (Ricinus communis)

bgU§fha« (Ferula asafoetida)

NIRAIVU (Medical Advise)

- ✓ All of them are advised to leave away from polluted area.
- ✓ All of them are advised to avoid cold item like, ice water.
- ✓ All of them are advised to do yogasanas.
- ✓ Advised to drink and bath in warm water
- ✓ Advised to lead a stress and strain free life.
- ✓ Advised to take head bath with medicated oil once in 4 days in Luke warm water
- ✓ The hair should be dried well after the bath.
- ✓ Advised to avoid day time sleep, especially after taking bath.
- ✓ Advised to avoid inhalation of dust fumes, and aromatic substance which induce sneezing.

YOGA

Yoga means union. Yoga makes reunion of the embodied individual with the universal soul. This is the goal of human life and endeavour.

Yogic way of life help a person directly to hold his physical forces is balance and indirectly develop his mental and spiritual powers.

Asanas, Mudras, Bandhas, Kriyas and Pranayama besides the self-imposed restrictions constitute the physical basis of yoga. This practices train the body and mind for spiritual perfection.

Yoga practice will tone up the nervous, lymphatics, and muscular systems and keep them in perfect health. The respiratory muscles become strong and the respiratory passage will be cleared of all impurities.

Minor structural and functional defects of the body will be rectified by the systematic practice of yogasanas and breathing practice.

The following Asanas are for **Azhal thalai nokkadu** patients.

1. Sarvangasana
2. Yogamudhra
3. Savasana
4. Viparitha Karani
5. Halasana
6. Usartarsana
7. Vachirasana
8. Mahamudhra
9. Patchimothasana.

PRANAYAMA

"Prana" means – life force and "Ayama" means – restraint.

Pranayama help to clean the dust and dirt in the nasal and lung passages and the rest of the respiratory tract and thus prevents cough, cold, catarrh, sinus troubles.

MODERN ASPECT

ANATOMY OF THE NOSE AND PARANASAL SINUSES

Nose is a complex structure and comprises the external nose, nasal cavity and paranasal sinuses.

External Nose:

Is shaped as a triangular pyramid. The supporting frameworks consist of bony part and cartilaginous part.

Bony Part:

Forms the upper part of the external nose. It consists of,

1. Anterior part of body of the maxilla with its frontal process
2. Nasal bones
3. Nasal spine of the frontal bone

Cartilaginous Part:

Supports the lower part of the external nose

i. Single central septal cartilage
ii. Two upper nasal cartilages
iii. Two lower nasal cartilages
iv. Small alar cartilages

THE NASAL CAVITY:

The nasal cavity is divided in to right and left halves by the median septum and extends from anterior nares to the posterior nasal apertures or choanae, where it communicates with the nasopharynx.

Floor : is formed by the palatine process of the maxilla and palatine bone.

Roof : has anterior sloping and is formed by the nasal bones. Central part is horizontal and is formed by cribriform plate of the ethmoid bone. The posterior sloping part is formed by undersurface of body of the sphenoid.

Medial Wall : is formed by the septum.

Lateral : is formed by maxilla and ethmoid bone.

Paranasal Sinuses:

Are air filled spaces in bones of the skull. These air filled cavities lined by an evagination of the mucous membranes of the nose form the nasal cavity in to the substance of adjacent skull bones. They are in direct communication with the skull through their opening called ostia.

There are four pairs of sinuses, and are conveniently divided in to an anterior and posterior group.

A. Anterior Group:

a. Frontal b. Ethmoidal c. Maxillary

All these sinuses drains in to the middle meatus of nose.

B. Posterior Group

a. Posterior ethmoidal drain in to superior meatus.

b. Sphenoid in to the spheno ethmoidal recess.

FRONTAL SINUS:

Frontal sinus occupies variable extent of the frontal bone and is divided in to two unequal sinuses. It is irregular, pyramidal in shape with its apex upward. The volume is 6-7 ml. Floor forms roof of the orbit, postero superior wall separates it from anterior cranial fossa. The opening is situated in the floor, runs through the frontonasal duct and opens either in the middle meatus or ethmoidal infundibulum.

ETHMOID SINUS:

The ethmoid cells consists of number of thin walled cavities varying in size and number and have a volume of 14ml. The cells are arranged in 3 groups. The anterior group opens in to the infundibulum, the middle group opens in to the middle meatus and the posterior group opens in to the superior meatus.

SPHENOID SINUS :

It lies within the body of the sphenoid bone. The sinus is divided by a bony septum. The volume is 7-5ml. Each sinus communicates with the spheno ethmoidal recess by a small aperture which lies at disadvantageous position for gravity drainage.

MAXILLARY SINUS: (Antrum of High more)

It is Pyramidal in shape with its base towards the nasal cavity and apex corresponds to the Zygomatic process. It is the largest of the sinuses with adult capacity of 15cc. Floor is formed by the alveolar process of the maxilla and hard palate and is related to 1st premolar to 2nd molar teeth. Occasionally 3rd molar also comes in relation. Roof is formed by the orbital surface of the maxilla and is ridged by the canal of the infra orbital nerve. Anterior wall is fairly thick and formed by anterior part of body of the maxilla. Posterior wall is a thin plate of bone separating from the pterygo-maxillary fossa.

The paranasal sinuses are also lined by as same as respiratory epithelium. But thinner than respiratory part i.e., pseudo-stratified, ciliated columnar epithelium. The subepithelial connective tissue is loose and highly vascular and contains many mucous and serous glands and lymphoid tissue. Inferior turbinates contains more vascular spaces and middle turbinate contains more secretory tissues.

PHYSIOLOGY

Functions of the Paranasal Sinuses

1. Warming and moistening of inspired air may be partly done by large mucosal surface of these adjacent sinuses.
2. The air filled sinus cavities probably add resonance to the laryngeal voice.
3. Temperature buffers: It is regarded that these chambers probably protect the contents of orbits and cranial fossae from the intranasal temperature variations.
4. Probably, sinus formation in the cranial bones help in reducing weight of facial bones and thus help in balance of head.
5. The sinus mucosa may act as donor site for reconstructive procedures e.g. for subglotic stenosis and implantation of maxillary sinus mucosa in to the nasal cavity in atrophic rhinitis.

6. They act as shock buffers.

NEURAL PHYSIOLOGY

Trigeminal sensory, parasympathetic and sympathetic neurons innervate the sinus mucosa little information is available about the functions of each type of neuron in normal physiology and sinusitis pathophysiology.

Nociceptive sensory neurons are relevant to sinusitis because they convey the sensations of acute pain, headache, congestion and fullness that are cardinal symptom of both acute and chronic sinusitis. Nociceptive neurons are thin nonmyelinated C fibre that innervate respiratory epithelium, blood vessels and possibly those glands that may be present.

Activation of epithelial nociception ending is thought to generate an action potential that is conducted throughout the entire neuron to trigeminal association areas of the brain stem and cervical spine.

SINUSITIS

Sinusitis, indicates an inflammation of the sinuses. The sinuses are maxillary, frontal, ethmoidal and sphenoidal. Among these maxillary and ethmoid sinus quite often become infected. Because there are present at birth. While the frontal and sphenoidal sinuses, generally appears age after 10. The most frequently involved one are maxillary sinuses. This involvement however is usually associated with ethmoid sinusitis or even with pansinusitis, i.e., involvement of all sinuses. According to duration of the disease, it is considered as acute if it is present for up to 3 weeks and chronic if it is persists beyond 3 month.

ACUTE SINUSITIS IN THE ADULT

Aetiology

Predisposing factors promote either an obstruction of the sinus ostium or facilitate the penetration of infection. They are,

1. Allergy:

Causes Oedema of the nasal mucosa, which closes the ostia of the sinuses, These patients usually have increased mucous production which also increases the risk of secondary bacterial infection.

2. Immuno Deficiencies

Decrease in IgA and IgG have been associated with the recurrent sinus infection.

3. Diabetes

Predispose to recurrent attacks of sinusitis.

4. Genetic Factor

The role of genetic factors in sinusitis remain unclear. Two well defined genetic disorders, cystic fibrosis, and primary cilia dyskinesia (Kartagener's syndrome) are associated with the persistent sinusitis.

5. Congenital Malformations:

Like choanal atresia, leading to retention of secretions in the affected side and facilitating infection.

6. Trauma:

Physical, surgical and Barotrauma from diving or flying lead to ostial obstruction.

7. Tumour or Foreign Bodies:

Presence in the nose leads to nasal and ostial obstruction. Packing of nose in the treatment of epistaxis leads invariably to transient ostial obstruction.

8. Septal Deviation:

It can lead to altered nasal air currents which may hamper sinus drainage.

9. Topical Nasal Drops:

Injudicious use of topical nasal drops which may trigger mucosal oedema and ostial obstruction.

10. Environmental Factor:

Cold weather, humidity, air pollution, inhalation of fumes and dust and swimming in contaminated water, predispose to or may be the source of infection.

CAUSATIVE FACTORS:

Infection is the main causative factors. It has two main sources, the nose and the teeth.

Nose:

Rhinitis typically precede sinusitis and sinusitis without rhinitis is rare. The mucosa of nasal and sinus tissues are contiguous and the symptoms of nasal obstruction and nasal discharge are prominent in sinusitis.

Teeth:

The roots of the superior first molars are in very close proximity to maxillary sinuses and the dental roots may even protrude into the floor of these sinuses. Infections of dental origin initially affect the maxillary sinus above the infected tooth.

Sinus infection may occur due to,

1. Bacterial 2. Viral 3. Fungal

BACTERIAL:

H.Infuenzae S.Pneumonia

St aureus S.Pyogenes

Moraxella catarrhalis

Are more common. Anaerobic bacterias like bacteroides, anaerobic gram positive cocci are less common. Nosocomial sinusitis involves more gram negative such as pseudomonas aeruginosa, Klebsiella pneumoniae, Enterobacter, Ecoli.

VIRAL:

Primary viral infections of the sinuses are extremely rare, or practically non existent. But viruses, Rhinovirus, influenzal virus and para infleunzae virus have been recovered up to 15% of sinus aspirates, in patients with suspected acute community acquired sinusitis.

FUNGAL:

Fungal sinusitis is usually divided in to 40 types.

1. Acute fulminant fungal sinusitis:

Rapidly progressive disease caused by fungi of family mucoraceae, rhizopus, muco and absida. Less commonly due to aspergillus species. This occurs almost exclusively in immuno compromised patients.

2. Chronic indolent fungal sinusitis:

This form is endemic in hot dry climate such as sudan of Northern India but not common in United States caused by Aspergillus and Dematiaceous fungi and occurs in immuno competent non-atopic patients.

Mycetoma form:

This is a chronic non invasive fungal infection and usually affects a single maxillary sinus. It occurs in non-atopic immuno competent hosts. Aspergillus is the most common pathogen.

Allergic fungal sinusitis:

It is most commonly diagnosed, and occurs in 5-10% of chronic sinusitis cases.

PATHOLOGY:

Acute sinusitis is most commonly preceded by acute and chronic rhinitis, but occasionally maxillary sinusitis arises by extension of a periapical infection through the bony floor of the sinus. The offending

agents are usually inhabitance reaction is entirely non specific. Impairment of drainage of the sinus by inflammatory edema of the mucosa is an important contributor to the process and when complete may be impound the suppurative exudate producing empyema of the sinus. Occasionally obstruction of the out flow, most often of the frontal and next most is anterior ethmoid sinuses leads to an accumulation of mucous secretions in the absence of bacterial invasion producing a so called mucocele.

Acute sinusitis may in time give rise to chronic sinusitis particularly when there is interference with drainage. Usually there is a mixed microbial flora, largely of normal inhabitations of the oral cavity. Particularly severe forms of chronic sinusitis are caused by fungi (Eg.mucor mycosis) especially in diabetics. Very commonly sinusitis is component of Kartagener's Syndrome, which also include bronchiectasis. All these features are secondary to defective ciliary action. Although most instances of chronic sinusitis are more uncomfortable than disabling (or) serious, the infections have ugly potential of spreading in to the orbit (or) penetrating in to the enclosing bone and producing Osteo myelitis or even in to the cranial vault, causing septic thrombophlebitis of a dural venous sinus.

The paranasal sinuses are poorly and the ostia are easily occluded by the resulting edema of an acute infection. The histologic features of sinusitis are identical to those of rhinitis. Due to the peculiar location of the sinuses othervise innocuous infections may result in lethal complications. A purulent ethmoiditis may result in orbital cellulites and intracranial infection. Frontal sinusitis may be complicated by osteo myelitis of the frontal bone, because of the peculiarity of the vascular supply. Thrombophlebitis occurs readily and the infection has access to the surrounding cancellous bone, Retrobulbar neuritis may result from sphenoidal sinusitis.

CLINICAL FEATURES:

Symptoms:

Pain:

It is generally localized over the PNS area. It may be sharp or referred to as an intense "Pressure". The pain may also be referred to the upper molars, eyes, frontal sinus and the ear. It is aggravated on bending down, coughing and sneezing in case of maxillary sinusitis. Vaccum headache is seen in case of frotal sinusitis due to blockage of fronto-nasal duct and absorption of air. Headache usually severe and periodic presents on waking and increases until mid-day and then subsides gradually. Pain is between and behind the eyes in case of ethmoid sinusitis. Deep seated central headache in sphenoid sinusitis.

Nasal obstructions:

It is quite common complaint that generally precedes the acute episode of sinusitis. It is generally caused by the Oedema of the nasal mucosa and by the presence of abundant Rhinorrhoea.

Rhinorrhoea:

Is generally mucopurulent. (Yellowish or greenish). It may be associated with the feeling of burning in the nose and with the presence of blood streaks. The rhinorrhoea may drain to the pharynx and the patient may complain of an associated pharyngitis. Foul smelling discharge is suggestive of dental origin.

Loss of smell:

Anosmia and hyposmia may occur due to the nasal obstruction and to the presence of pus. In some cases, the patient may complain of a constant putrid smell (cacosmia). This is generally due to the presence of anaerobes and a dental origin for the infection needs to be ruled out.

Presence of pus:

Presence of Pus in the middle meatus is generally indicative of acute maxillary sinuitis. Presence of pus in the anterior part of middle meatus indicates frontal sinusitis. Acute ethmoid sinusitis may also produce pus in this area. A dry nose, however dose not rule out diagnosis since the ostium may be completely closed.

Dry cough:

May be present due to the post nasal drip which tickle into the oropharynx.

Constitutional symptoms:

The patient may have headache, heaviness of the head, malaise and fever.

Signs:

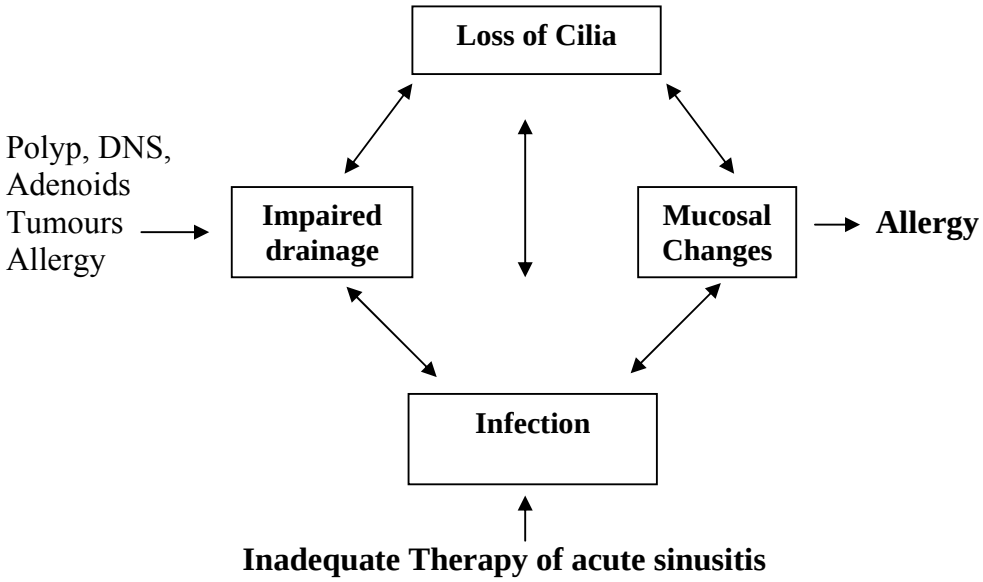
Slight oedema on the affected area is seen and tenderness in PNS area.

CHRONIC SINUSITIS – IN THE ADULT

Aetiology:

Chronic sinusitis may be due to inadequately treated acute rhinitis or sinusitis, persistent dental pathology, especially an oroantral fistula, underlying diseases such as diabetes, allergy, mucoviscidosis, immuno deficiencies immotile cilia syndrome daily exposure to toxic and irritative fumes, dust or drugs, anatomical changes preventing adequate sinus drainage such as septal deviations. The presence of a bullous middle turbinate or the presence of polyps and tumours.

Pollution, chemicals, infection



Bacteriology:

In chronic sinusitis cultures from the sinus may yield anaerobes alone a mixed, Culture of anerobes and aerobes or aerobes alone. The aerobes includes pseudomonas, klebsiella, proteus and E.coli besides those usually involed in the acute infection.

Clinical Features:

There is usually a copius post nasal discharge which may be greenish yellow when acutely infected but is often clear Nasal obstruction is usually the result of swelling of the inferior turbinate mucosa consequent on the presence of sepsis.

The severe pain of acute sinusitis is absent, but a deep chronic headache over the forehead, the bridge of the nose and medial canthus of eyes and face is common. This is due to increased pressure in the sinuses from a build up of secretions.

The presence of chronic sepsis in the upper respiratory tract may lead to anosmia or cacosmia. Chronic irritation inside the nose may produce a vestibulitis or excoriation due to excessive use of the handkerchief. Nose bleeding is also common.

The purulent secretions may also produce oedema of the Eustachian tube orifice with consent otitis media, granular pharyngitis and chronic laryngitis.

SINUSITIS IN CHILDREN

For Children under 10 years of age, the only sinuses that are normally infected are the maxillary and the ethmoid. The frontal and sphenoid sinuses are infected less frequently and only after the age of 10 years.

Predisposing Factors:

The high incidence of upper respiratory tract infections in children due to the immaturity of the immune system which becomes after puberty contribute the incidence of sinusitis in children. Other factors include the high incidence of exanthematic viral infections, allergy which may manifest from birth and presence of congential malformation such as choanal atresia or congential tumours such as gliomas of Encephalocele.

Underlying disease such as mucoviscidosis, immotile cilia syndrome, or the persistence of a nasal foreign body may be other contributory factors.

Clinical Features:

The disease differ considerably from that of the adult. More often than not the acute disease presents with a complication.

Acute Sinusitis:

Very common and may manifest with fever, purulent rhinorrhoea, oedema of the face and orbital signs and symptoms.

In children over 10 years of age, any sinus can be involved with a clinical picture similar to that of the adult.

The microorganisms involved in acute sinusitis in children are as same as found in the adult.

HIV manifestation of sinusitis:

20-68% of HIV positive individual develop sinusitis. This usually presents similarly to non-HIV cases. Although it may occasionally appear as recurrent fever or sepsis. Bacteriology is similar to non-HIV sinusitis except in patients with CD_4 below 200 where, P.aerogenous, S.aureus and opportunistic fungi are also seen

Complications of Sinusitis

Acute:

Local:

1. Orbital:

1. Preseptal Cellulitis
2. Orbital Cellulitis without abscess.
3. Orbital cellulitis with sub or extraperiosteal abscess
4. Orbital cellulitis with intraperiosteal abscess
5. Cavernous sinus thrombosis

2. Intra Cranial:

a. Abscess
   i. Extra dural
   ii. Sub dural
   iii. Intracerebral

b. Meningitis
c. Encephalitis
d. Cavernous or sagittal sinus thrombosis

3. Bone:

Osteitis / Osteomyelits (Pott's puffy tumour)

4. Dental:

Distant: Toxic shock syndrome

Chronic:

Mucocele / Pyocele

Associated Disease

Otitis media, Adenotonsilitis, Bronchiectasis

INVESTIGATIONS

1. Anterior Rhinoscopy:

Patients should be examined before and after decongestion. Allows viewing of septum and turbinate, limited visualization of posterior and upper nasal vault.

2. Nasal Endoscopy:

Allows excellent illumination plus visualization of the entire nasal cavity specifically the inferior / middle meatus, sphenothmoid recess and nasal roof. The 4mm 30 endoscope provides the best overall view good for teaching and photo documentation.

3. Nasal Cytology:

Curetting the non-vasoconstricted in inferior turbinate yields a better specimen than nose-blowing into plastic wrap. Increased neutrophils plus bacteria (or) fungi suggest infection. Increased eosinophils or basophils suggest infection. Increased eosinophils or basophils suggest allergy (or) non allergic rhinitis with eosinohilia (NARES) ciliary motility / election microscopy studies may be performed.

4. Rhinomanometry:

a. Anterior rhinomanometry (most common)

A face mask is used to measure airflow.

b. Pressure sensor – Occludes one nostril and airflow on the other nostril is measured.

c. Posterior rhinomanometry – A face mask is used to measure airflow through either one or both nares while pressure is measured with either a transducer held personally beneath the soft palate or passed along the nasal floor to the nasopharynx.

d. Active rhinomanometry – Patient breathes actively (most common) Passive rhinomanometry – Air is blown through the nasal cavity.

e. Subjective obstruction correlates better with unilateral than bilateral rhinomanometry.

f. Not often used in general clinical practice since time consuming cumbersome and upto 50% test retest variability.

g. Acoustic rhinometry – Reflected sound waves are used to assess nasal airway cross – section. Not commonly used. Better for anterior obstruction near the nasal valve.

Sino Nasal Imaging:

Best for identification of sinus specification of air-fluid levels, Gross mass and destructive effects and fractures very non-specific for more subtle processes and ethmoid diseases.

2. Computed Tomography (CT)

Generally study of choice for sinus imaging. Excellent demonstration of bony anatomy and mucosal disease, coronal study, provides most information with contiguous 3mm. Secretions done with bone algorithm. Axial scans are generally added when sinus diseases is found. Intravenous contrast is not used except when there is concern regarding extension of infection or neoplastic other process.

3. Magnetic Resonance Imaging (MRI)

Offers the advantages of multiplanar imaging without using the prone position necessary for coronal CT (Position not tolerated well by geriatric and paediatric patients). It provides excellent soft tissue definition but fails to image bony anatomy.

4. Ultra sound:

Has equally and slightly less sensitivity and specificity than plain radiographs for detecting maxillary sinus fluid but is not reliable for frontal ethmoidal or polypoid disease.

MATERIALS AND METHODS

The clinical study was carried out in the post graduate department of Maruthuvam, Government Siddha Medical College, attached to Arignar Anna Hospital of Indian Medicine, Chennai, during the period of 2007 - 2008.

SELECTION OF CASES:

20 cases from both sex of varying age groups in the inpatient ward and 20 cases in the out patient department. Before admission all the cases were carefully examined for correct diagnosis and other co-existing systemic illness if any was ruled out.

Patients having duration of illness 2 weeks to 3 years are taken for study. Allergic Rhinitis, Bronchitis were excluded from the study. 20 patients were kept as inpatients and necessary investigation and treatment was for given with daily follow up. Another 20 patients were treated as out patient department seperately with weekly follow up.

CRITERIA FOR SELECTION

1. Head ache
2. Heaviness of the Head
3. Pain and tenderness over PNS area
4. Recurrent sneezing
5. Nasal congestion
6. Running Nose
7. Watering of the eye and eye irritation
8. Ear Pain

EXCLUDING CRITERIA

1. Opthalmic head ache
2. Migraine
3. Cavernous sinus thrombosis
4. Sinusitis in children

EVALUATION OF CLINICAL PARAMETERS

During treatment, the cases were subjected to careful history taking and symptoms like nasal discharge, sneezing, heaviness of head headache, pain and tenderness over the PNS area is noted. History of past illness, personal history, habits, family history, socio economic status, occupational history are also noted.

STUDY OF SIDDHA CLINICAL DIAGNOSIS

The following siddha methods of diagnosis were also employed viz.

1. Poriyal therthal, 2. Pulanal therthal, 3. Vinaathal, 4. Nilam, 5. Yakkai nilai, 6. Paruvakkaalam, 7. Envagai thervugal 8. Mukkutra Nilai, 9. Udal thathukkal nilai.

CLINICAL INVESTIGATIONS

For all patients lab investigations like,

1. Routine haematological examinations.
2. Blood Sugar
3. Serum Cholesterol
4. Blood Urea
5. Routine urine and stool examinations
6. Absolute eosinophil count
7. X-ray skull for paranasal sinuses

DRUGS AND DOSE SCHEDULE

1.	Sira Noi Chooranam	-	1- 2gm, twice daily with hot water, after food.
2.	Peenasa Thylam	-	3 drops each nostril, 2 times a day for 10 days.

PREPARATION AND PROPERTIES OF TRIAL DRUGS

DRUG - I: SIRA NOI CHOOARNAM

(Bramha Muni Vaidhya Soothiram 390 – Page No: 120)

DRUG – II : PEENASA THYLAM

(Agathiyar Attavanai Vagadam – Page No: 239)

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INGREDIENTS

Kotha malli	-	420 gm
Jeeragam	-	35 gm
Adhimadhuram	-	35 gm
Lavangam	-	35 gm
Siru Naagappoo	-	35 gm
Satha Kuppai	-	35 gm
Karun Jeeragam	-	35 gm

Total Quantity candy sugar 840 gm.

Preparation of the drug:

All the ingredients are purified, grinded well as a fine powder. It was sieved through white cloth. Then purified by steam cooking in milk. (Pittaviyal) as per Siddha Literature. The same was later powdered, sieved again and preserved.

Dose : 1 - 2 gm twice a day after food.

Adjuvant: Hot Water

Indications:

Head ache, nasal congestion, nausea, vomiting, excessive lacrimation, ear pain.

bfh¤j kšè

Bot. Name : Coriandrum Sativum

Family : Apiaceae

Part used : Seed

Action : Stomachic, Carminative, Stimulant, Antibilious, Refrigerant

Constituents : Coriandrol, d-pinene, geraniol, baborneol

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Óuf«

Bot. Name : Cuminum cyminum.

Family : Apiaceae

Part used : seeds

Action : Anti-inflammatory, Carminative , Stimulant, Astingent, Refrigerant

Constituents : Fatty Oil, Resin, Proteins, Essential Oil, Cuminol, Cymene.

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mÂkJu«

Bot. Name : Glycyrrhiza glabra

Family : leguminosae

Part used : Root

Action : Emollient, Demulcent, Mild Expectorent

Constituents : Saponin Glycyrrhetic acid, Glycosides, Coumarin

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Bot. Name : Syzygium aromaticum, Eugenia caryophyllata

Family : Myrtaceae

Part used : Buds

Action : Antispasmodic, Carminative, Stomachic

Constituents : Eugenol, Eugenin, Caryophyllin, Campher, resin 6%

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Bot. Name : Mesua ferra

Family : Guttiferae

Part used	:	Buds
Action	:	Astringent, Carminative, Antibiotic activity, Antibacterial activity
Constituents	:	Mesuol (C_{23} H_{22} O_5), Mesuone, 4 Phenyl coumarin,

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rjF¥ig

Bot. Name	:	Anethum graveolens
Family	:	Apiaceae
Part used	:	Seeds
Action	:	Deobstruent, Aintispasmodic, Anti inflammatory, Anti pyretic, Anodyne
Constituents	:	Phellandrene, d-limonene, Calcium, Iron, Dill oil, Anethine, Apiol

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Phy¢ rjF¥ig ehL”.

fUŠÓuf«

Bot. Name	:	Nigella Sativa
Family	:	Ranunculaceae
Part used	:	Seeds

Action	:	Emollient, Parasiticide, Anthelmintic, Anaesthetic action, Anti histamine
Constituents	:	Essential Oil- Nigellone (Active Component) Melanthin, Volatile Oil 1.5%, Glycosidal Saponin

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thŒ¢r kUªbjdnt it”.

f‰f©L

Bot. Name	:	Saccharum officinarum
Family	:	Graminae
Part used	:	Candy Sugar
Action	:	Demulcent, Antiseptic, Coolent, Nutrient, Preservative
Constituents	:	Fat, Albumin, Guanine, Mucilage, Sugar

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Õdr ijy«

ešby©bzŒ 685 ml (Gingely Oil)

äsF 4.2 »uh« (Piper nigrum)

bgh‹ K£il nt® - 16.8 »uh« (Cissampelos pariera)

R¡F - 16.8 »uh« (Zingiber officinalis)

mf¤Âa® m£ltiz thfl« g¡f« -239

PREPARATION OF THYLAM:

All the drugs are ground with water to make Karkam. Then mix the Karkam with gingely oil, then boiled it till the Karkam reaches the wax stage. Filter the thylam and stored in a good container.

Dose: 3 drops each nostril two times a day for 10 days.

bgh‹ KR£il

Bot. Name	:	Cissampelos Pareira
Family	:	Menispermaceae
Part used	:	Root
Action	:	Expectorant, Nutrient, Diaphoretic, Anti septic, Anti tumor, Immuno Modulator
Constituents	:	Bebeerine, Cissampeline, Pelosine, hyatine, hyatinine.

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äsF

Bot. Name	:	Piper Nigrum
Family	:	Piperaceae
Part used	:	Dry Fruit
Action	:	Resolvent, (Antinflammatory) Antivatha, Antidote.

Constituents : Caryophyllene Oxide, Piperine, Chavicine, Piperetine,

Volatile alkaloids

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R¡F

Bot. Name : Zingiber officinale

Family : Zingiberaceae

Part used : Rhizome

Action : Stimulant, Anti inflammatory

Constituents : Gingiberine, Sesquiterpene alcohol – Zingiberol,

Borneol, geraniol, Gingerol, Shogaol

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Bot. Name : Sesamum Indicum

Family : Pedaliaceae

Part used : Seed Oil

Action : Anti inflammatory, Demulcent, Antiseptic

Constituents : Vitamin E, Sesamin, Sesamolin

bghJ Fz«:

".. .. .. ò¤Â ead¡ Fë®¢Á óç¥ò bkŒ¥ òsfŠ

r¤Jt§fªÂ jåæsik – bk¤jÎ©lh§

f©nzhŒ brénehŒ fghy tHš fhrnehŒ

ò©nzhŒ ngh bk©bzŒah‰ ngh‰W”

ACUTE TOXICITY STUDY

TOXICOLOGICAL EVALUATION FOR SIRA NOI CHOORANAM

Acute oral toxicity study (Ecobichnon, 1997)

The procedure was followed by using OECD guidelines (Organization of Economic Cooperation and Development) 423 (Acute Toxic Class Method). The acute toxic class method is a stepwise procedure with 3 small animals of a single sex per step. Depending on the mortality and / or morbidity status of the animals, on the average 2-4 steps may be necessary to allow judgement on the acute toxicity of the test substance. This procedure results in the use of a minimal number of animals while allowing for acceptable data based scientific conclusion. The method, uses, defined doses (5, 50, 300, 2000 mg/kg body weight) and the results allow a substance to be ranked and classified according to the Globally Harmonized System (GHS) for the classification of chemicals which acute toxicity.

Experimental procedure

Female wistar rats weighing 150 – 200 gm were used for the study. The starting dose level of *Sira Noi chooranam* was 2000 mg/kg body weight per oral (p.o).As most of the crude extracts posses LD_{50} value more than 2000 mg/kg per oral. The starting dose used was 2000 mg/kg p.o. Dose volume was administered 0.1 ml/10 gm body weight to the rat which were fasted night over with water ad libitum. Food was withheld for a further 3-4 hours after administration and observed for signs of toxicity. Body weight of the rats before and after termination were noted

aand any changes in skin and fur, eyes and mucous membrane and also respiratory, circulatory, autonomic and central nervous systems and somatomotor activity and behaviour pattern were observed and also signs of tremors, convulsion, salivation, diarrhoea, lethargy, sleep and coma were noted. The onset of toxicity and signs of toxicity also noted.

Result

The trial drug *Siranoi Choorannam* did not exhibit any significant toxicity at 2000 mg/kg body weight. So the drug is safe for long term administration.

Ref: Ecobicon DJ. The basis of Toxicity testing (CRC Press, 2nd edition. New York – 1997 Page No: 43.

ANTI-INFLAMMATORY EVALUATION OF *SIRA NOI CHOORANAM* BY CARAGEENAN INDUCED PAW OEDEMA

METHOD

PROCEDURE:

The paw oedema was induced by injection of 0.1 ml of 1.1% carageenan in 0.9% saline in to sub-plantar region of the left hind paw of the rats. The EEA1 standard (Diclofenac sodium 5 mg/kg) and control. (Tween 20) were administered 60 minutes before carageenan injection. The volume of injected paw was measured at 60, 180, 300 minutes after the carageenan injection using plethysmometer and the oedema was expressed by increase in paw volume.

Group	60 min	120 min.	180 min.	240 min.
Group I	0.29 ± 0.13	0.36 ± 0.05	0.51 ± 0.01	0.50 ± 0.06
Group II	0.19 ±	0.21 ±	0.19 ±	0.20 ±

	0.06	0.02	0.06	0.02
Group III	0.16 ± 0.05	0.17 ± 0.08	0.14 ± 0.04	0.16 ± 0.08

Values expressed as mean ± S.D. of 6 animals in each group comparison were made between Group II & Group III.

- $P \leq 0.05$

Experimental protocol

Animals : Wistar rats

Sex : Both

Weight range: 150 – 200 gm

Number each group: 6

Group I : Control animals received *Tween- 20* orally at the dose of 10ml / Kg b.w.

Group II : Animals received *Sira Noi Choornam* orally at the dose of 360 mg/ kg b.w.

Group III : Animals received standard drug *Diclofenac Sodium* orally at the dose of 5 mg / kg b.w.

Result:

Sira Noi Chooranam a t the dose of 520 mg administered animals exhibited significant ($p<0.05$) anti inflammatory activity when compared with control animal. The standard drug also exhibited significant anti inflammatory activity.

Reference:

Winter C.A Risely EA Nuss G.W. 1962 carageenan induced in hind paw of the rats as an assay for anti-inflammatory drug.

Analgesic Evaluation of *Siranoi Chooranam* by 0.6% Acetic acid induced writhing method.

Acetic acid induced writhing method.

PROCEEDURE:

Painful reaction in animals was produced by chemical method by using 0.6% v/v acetic acid injecting 1 ml/100 gm body weight of the animals. Animals divided in to 3 group each consisting of 6 animals the appropriate volume of acetic acid solution to the first group animal, place them individually under glass jar for observation. Note the onset of writhing. Record the number of abdominal contractions and trunk twisting response and extension of hind limbs as well as the number of animal showing the response during a period of 10 min. The second and third group animal administered the test drug. After 1 hr later dminister the acetic acid to all the animals. Note the onset and severity of writhing response as mentioned above. Then calculate the mean writhing response in control as well as drug treated animals.

Reference:

Kulkarni S.K. Hand book of Experimental Pharmacology. 3rd Edition, Vallabh Prakash, New Delhi 1999.

Drug / Dose	Number of writhings in 20 minutes
Group – I	42.5 ± 2.59
Group – II	18.5 ± 4.29 *
Group-III	13.5 ± 2.47 *

Values expressed as mean ± S.D. of 6 animals in each group.

Comparision were made between Group I, Vs Group. II and III $p < 0.05$.

Experimental protocol

Animal : Albino mice

Sex : Both

Weight range : 20 to 25 gm

Number in each group – 6.

Group I - Control animals received *tween – 20* orally at the dose of 10 ml/kg b.w.

Group II – Animals received Sira Noi Choornam orally at the dose 06 520 mg / kg b.w.

Group III – Animals received standard drug asprin orally at the dose of 100 mg/ k.g. b.w.

Tail immersion method.

PROCEDURE:

In this method heat is used as a source of pain. The basal reaction time by observing in mice when immersed the tail on the hot water maintained at constant temperature (55^0C). The tail withdrawal response is taken as the end point. Analgesics increase the reaction time after the drug administration different time interval (60, 120, 180, 240 minutes) observed

the tail withdrawal response of all the group of animals. A cut off period of 15 sec is observed to avoid damage to the tail. Then calculate the reaction time at each time interval.

Group	60 minutes	120 minutes	180 minutes
Group I	285 ± 0.75	2.83 ± 0.75	3.00 ± 0.89
Group II	5.7 ± 1.16	6.8 ± 2.85	7.12 ± 1.47
Group III	9.66 ±1.36	9.5 + 1.87	9.26 ± 1.72

Values expressed as mean ± S.D. of 6 animals in each group.

Comparision were made between Group I, Vs Group. II and III $p < 0.05$.

Experimental protocol

Animal :Albino mice

Sex : Both

Weight range : 20 to 25 gm

Number in each group – 6.

Group I - Control animals received *tween – 20* orally at the dose of 10 ml/kg b.w.

Group II – Animals received *Sira Noi Choornam* orally at the dose of 520 mg / kg b.w.

Group III – Animals received standard drug Asprin orally at the dose of 5 mg mg/ k.g. b.w.

Result:

Siranoi Choornam at the dose of 520 mg administered animals exhibited significant ($p < 0.05$) analgesic activity when compared with control animals. The standard drug also exhibited significant analgesic activity.

Effect of *Siranoi Choornam* on Histamine induced bronchospam in Guinea pigs

The effect of siddha herbal formulations *Siranoi Choornam* on histamine induced bronchospasm was studied in guinea pigs. Guinea pigs of either sex (400-600gm) were housed under uniform environmental conditions. They were divided in to two groups of six animals each and the following regimen of treatment was follows:

Group I : Animals received 175 mg / kg.p.o. of *Siranoi Chooranam* suspended with 1% SCMC (sodium carboxy methyl cellulose) administred daily for seven days.

Group II : Animals received 2mg / kg. p.o of standard drug Chlorphenaramine maleate, suspended with 1% SCMC (sodium carboxy methyl cellulose) administered daily for seven days.

Procedure:

Prior to drug treatments, the animals were placed in the histamine chamber and exposed in micro aerosol of histamine acid phosphate (1% w/v) using a nebulizer under constant pressure of 40 mm/Hg. The animals exposed to the asthmatic agents showed progressive dyspnoea. The end point pre-convulsive dyspnoea (PCD) was determined from the time of aerosol exposure to the onset of dyspnoea leading to the appearance of the convulsion. As soon as PCD was noted, the animals were removed from the chamber and placed in fresh air. 0-day values PCD was taken before treatment. The animals were administered with the formulations and drugs as describe above. On seventh day two hours after the last dose, the time for the onset of PCD was recorded as on day 0. The animals with stood exposure to histamine aerosols for 10 mins were considered to be completely protected.

The protection offered by the treatment was calculated by the following formulate.

Percentage Protection = $[1-T_1/T_2] \times 100$

Where,

T_1 is time for PCD onset on day 0.

T_2 is time of PCD onset on day 7.

Groups	**Time of Pre-conclusive dyspnoea (sec)**		**Percentage Protection**
	Before Treatment	**After Teatment**	
Group I	124.5 ± 4.39	248.3 ± 46.07	49.85
Group II	122.3 ± 9.32	278.5 ± 44.35	56.08

Values are mean ± SEM of six animals in each group

* $P< 0.05$ after treatment compared with before treatment.

Result:

Administration of *Siranoi Choornam* (175mg / kg) received animals exhibited significant (P< 0.05) antihistaminic activity when compare with the before drug treated animals. The standard drug chlorphenaramine maleate also exhibited significant (P< 0.05) antihistaminic activity.

MICROBIOLOGICAL STUDY

The extract of the drug **SIRA NOI CHOORNAM** was tested with the following micro organisms.

- Staphylococcus aureus
- Escherichia coli
- Klebsiella
- Pseudomonas
- Candida albicans

PROCEDURE

The tube dilution method was used, as a homogenous dispersion of the drug is more effective to test the anti microbial activity of the drug. Dilution method is used in the preliminary screening of the antimicrobial activity.

To 10ml of nutrient culture 0.5ml of the extract was added and the tubes were incubated at 37^0 overnight (18-24 hours). The next day the tubes were examined for turbidity and subcultures were made on nutrient agar plates, control tubes without drug were also included.

The culture plates were incubated overnight at 37^0C and next day the reading was taken. Results for the concentration of the drug used in this study were as follows. The test was done with the following microorganisms using.

Staphylococcus aureus -		Highly sensitive
Escherichia coli	-	Moderately sensitive
Klebsiella	-	Non sensitive
Pseudomonas	-	Non sensitive
Proteus	-	Non sensitive
Candida albicans	-	Non sensitive

BIO CHEMICAL ANALYSIS OF HERBAL PREPARATION

Preparation of Extract

5 gm of SIRA NOI Chooranam is weighed accuratly and placed in a 250 ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100 ml volumetric flask and made up to 100 ml with distilled water.

S.No.	Experiment	Observation	Inference
	I. Test for Acid Radicals		
a.	2 ml of the above prepared extract is taken in a test tube. To this add 2 ml of 4% Ammonium oxalate solution.	Presence of white precipitate.	Presence of sulphates.
b.	2 ml of sodium carbonate extract as added with 2 ml of dilute Hydrochloric acid is until the effervescence ceases off. Then 2 ml of Barium chloride solution is added.	Presence of white precipitate.	Sulphate is confirmed.
2.	**Test for Phosphate:** 2 ml of the extract is treated with 2 ml of Ammonidum Molyb date solution and 2ml of concentrated Nitric acid.	Yellow precipitate. is obtained	Prsence of Phosphate.
3.	**Test for Fluoride and Oxalate:**	Presence of white	Presence of

a)	2 ml of the extract is added with 2 ml of dilute Acetic acid and 2 ml of calcium chloride solution and heated.	precipitate.	fluoride and oxalate.
b)	5 drops of clear solution is added with 2 ml of dilute sulphuric acid and slightly warmed. To this, 1ml of dilute potassium permanganate solution is added.	Potasium permanganate solution is decolorized	Presence of oxalate.
4.	**Test for Borate:** 2 pinches of the substance is made into paste by using surphuric acid and alcohol (95%) and introduced in to the blue flame.	Presence of green tinged flame	Borate is confirmed.

II.	**Test for Basic Redicals**		
a)	**Test for Iron:** To the 2ml of extract, 2 ml of Ammonium thiocyanate solution is added	Blood red colour is seen	Presence of Feeric Iron.
b)	To the 2 ml of extract, 2ml of Ammonium thiocyanate solution and 2ml of concentrated Nitric acid added.	Blood red colour is seen	Presence of Feeric Iron.
5.	**Test for Calcium:** 2 ml of the extrct is added with 2 ml of 4% Ammonium Oxalate solution.	Presence of white precipitate.	Presence of Calcium.
6.	**Test for Magnesium:** To 2ml of extract, sodium hydroxide solution is added in drops to excess.	Presence of white precipitate.	Presence of Magnesium.
III.	**Test for Miscellanious Substances:**		
7.	**Test for Starch:** 2 ml of extract is treated with weak Iodine solution.	Presence of blue colour	Presence of Starch.
8.	**Test for reducing sugar:** 5 ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boiled for 2 minutes. The colour changes are noted.	Presence of green colour	Presence of reducing sugar.
9. a)	**Test for alkaloids:** 2 ml of the extract is trated with 2 mol of Potassium iodide solution.	Presence of red colour	Presence of alkaloids.
b)	2 ml of extract is treated with 2 ml of picric acid.	Presence of red colour	Alkaloid is confirmed
c)	2 ml of the extract is treated with 2 ml of phosphotungstic acid	White precipitate. develops	Presence of alkaloids.
10.	**Test for Tannic acid:** 2 ml of the extrat is treated with 2 ml of Ferric chloride solution	Presence of brown colour	Presence of tannic acid
11.	**Test for undsaturated compound:** To 2 ml of the extract 2 ml of Potassium permanganate compound solution is added.	Potasium permanganate decolorised.	Absence of unsaturated compound

12.	**Test for Aminoacid:** 2 drops of theextract is placed on a filter paper and dried well. After drying 1% Ninhydrine is sprayed over the same and dried well.	Presence of Violet colour.	Presence of Amino acids.
13.	**Test for Albumin:** 2 ml of the extract is added with 2 ml of Esboch's reagent.	Presence of yellow colour	Presence of Albumin.
14.	**Test for Type of compound:** 2 ml of the extract is treated with 2 ml of Ferric chloride solution.		

Results:

The given sample contains.

ACID RADICALS: Sulphates, Phosphate
Fluoride and Oxalate
Borate.

BASIC RADICALS: Iron, Calcium, Magnesium

MISCELLANEOUS:

- Alkaloids, Amino acids
- Tannic Acid
- Starch
- Reducing Sugar
- Albumin

CASE SHEET PROFORMA

IP CASE SHEET PROFORMA FOR "AZHAL THALAI NOKKADU"
POST GRADUATE DEPARTMENT, BRANCH I - MARUTHUVAM
GOVT SIDDHA MEDICAL COLLEGE & HOSPITAL
CHENNAI – 106

IP NO	:	OCCUPATION
WARD NO	:	INCOME
BED NO	:	NATIONALITY
NAME	:	RELIGION
AGE	:	DATE OF ADMISSION
SEX	:	DATE OF DISCHARGE
ADDRESS	:	TOTAL NO OF DAYS TREATED
		RESULTS
		DIAGNOSIS
EDUCATION:		

MEDICAL OFFICER'S SIGNATURE

1. COMPLAINTS AND DURATION :
2. H/O PRESENT ILLNESS:
3. H/O PREVIOUS ILLNESS:
4. PERSONAL HISTORY INCLUDING HABITS:
5. FAMILY HISTORY:
6. OBSTETRIC HISTORY:

GENERAL EXAMINATION:

1. Consciousness
2. Nutrition
3. Decubitus
4. Anaemia
5. Jaundice
6. Cyanosis
7. Clubbing
8. JVP
9. Oedema
10. Generalised Lymphadenopathy
11. Pulse Rate
12. Heart Rate
13. Respiratory Rate
14. Temperature
15. Blood Pressure

SIDDHA ASPECT

NILAM (Places)

Kurinji (Hilly area)
Mullai (Forest area)
Marutham (Fertile area)
Neithal (Coastal area)
Palai (Arid area)

PARUVA KAALAM (Seasons)

1. Kaar (Aavani – Purattasi) –(Aug-Oct)
2. Koothir (Iyppasi – Karthigai) – (Oct-Dec)
3. Munpani (Maargazhi – Thai) – (Dec-Feb)
4. Pinpani (Maasi – Panguni) – (Feb – Apr)
5. Elavenil (Chithirai – Vaigasi) – (Apr – June)
6. Muthuvenil (Aani – Aadi) – (June – Aug)

YAKKAI (UDAL NILAI)

Vatham
Pitham
Kapham
Kalappu

MUKKUNAM

Sathuva gunam
Raasatha Gunam
Thamasa Gunam

IYMPORI/PULANGAL (Sensony Organs)

Mei / Sensation
Vaai / Taste
Kan / Vision
Mooku / Smell
Sevi / Hearing

KANMENTHIRIYAM / KANMAVIDAYAM:

Kai – Koduththal
Kaal – Nadaththal
Vai-Pesal
Eruvai-Kazhiththal
Karuvai-Ananthithal

MUMMALAM:

Malam
Moothiram
Viyarvai

KOSAM

1. Annamaya Kosam (Paru udambu) (Yeluudal Thaathukkal)
2. Pranamaya Kosam (Vali udambu) (Pranan + Kanmenthiriyam)
3. Manomaya Kosam (Mana udambu) (Manam + Gnanenthiriyam)
4. Gnanamaya Kosam (Arivu udambu) (Puththi + Gnanenthiriyam)
5. Ananthamaya Kosam (Inba Udambu) (Pranan + Suzhuthi)

PIRA URUPPUKALIN NILAI:

Iruthayam
Puppusam
Eraippai
Kalleeral
Manneeral
Siruneeragam
Siruneerpai
Moolai
Karuppai

UYIR THATHUKKAL:

VALI (or) VATHAM:

Piranan
Abanan
Viyanan
Uthanan
Samanan
Nagan
Koorman
Kirukaran
Devathathan
Thanajayan

AZHAL (or) PITHAM

Analagam
Ranjagam
Saadhagam
Aalosagam
Prasagam

IYAM (or) KAPHAM:

Avalambagam
Kilethagam
Pothagam
Tharpagam
Santhigam

UDAL THATHUKKAL:

Saaram
Senneer
Oon
Kozhuppu
Enbu
Moolai
Sukkilam/Suronitham

ENVAGAI THERVUGAL:

Naa
Niram
Mozhi
Vizhi
Sparisam

MALAM

Niram
Edai
Erugal
Elagal

MOOTHIRAM

I Neerkuri

Niram
Manam
Edai
Nurai
Enjal

II Neikuri

Vatha neer
Pitha neer
Kapha neer
Thontha neer

NAADI

Vatha Naadi
Pitha Naadi
Kapha Naadi
Thontha Naadi

EXAMINATION OF NOSE AND PARANASAL SINUSES

A. LOCAL EXAMINATION

I. INSPECTION

- Nasal mucosa
- Nasal septum
- Nasal polyp
- Puffiness of face

2. PALPATION

- Maxillary region
- Frontal region
- Infra orbital margin

OTHER SYSTEMS

1. RESPIRATORY SYSTEM

INSPECTION

1. Throat
2. Position of trachea
3. Shape of the chest
4. Type of breathing

PALPATION

PERCUSSION

AUSCULTATION

2. CVS

3. GIT

4. CNS

5. GENITO URINARY SYSTEM

LAB INVESTIGATIONS

1. **BLOOD**
   a. T.C.
   b. D.C.
   c. E.S.R.
   d. HB
   e. Blood Sugar (Fasting/PP/R)
   f. Blood Urea
   g. Serum cholesterol
   h. Absolute Eosinophil Count
2. **URINE**
   a. Albumin
   b. Sugar
   c. Deposits
3. **MOTION**
   a. Ova
   b. Cyst
4. **X-RAY**
   a. Para nasal sinuses
5. **C.T.SCAN – SINUS AREA**
6. **MRI – SINUS AREA**

CASE SUMMARY

FINAL DIAGNOSIS

MEDICINE:

1. Siranoi Chooranam - Verukadi alavu, 1-2 gms, with Hot water after food, 2 times a day.

2. Peenasa Thylam – 3 drops, each nostril, 2 times a day for 10 days.

DATE	DAILY REPORT	MEDICINE

MEDICAL ADVICE

RECORDING OF PROGRESS

S.No.	Clinical Features	Before Treatment	During Treatment	After Treatment
1.	Running nose			
2.	Heaviness of the head			
3.	Excessive Salivation			
4.	Throat pain			
5.	Ear Pain			
6.	Pain & Tenderness in PNS area			
7.	Recurrent sneezing			
8.	Nasal congestion			
9.	Nasal Irritation			
10.	Irritation and Watering of the eyes			
11.	Head Ache			
12	Cough & Expectoration			
13.	Fever			
14.	Voice changes			
15.	Epistaxis			

+++ Severe

++ Moderate

+ Mild

- Nil

DISCHARGE CASE SHEET

PROFORMA FOR AZHAL THALAI NOKKADU
POST GRADUATE DEPARTMENT,
BRANCH I POTHU MARUTHUVAM
GOVT SIDDHA MEDICAL COLLEGE & HOSPITAL,
CHENNAI – 106

IP NO : OCCUPATION :
WARD NO : INCOME :
BED NO : NATIONALITY :
NAME : RELIGION :
AGE : DATE OF ADMISSION :
SEX : DATE OF DISCHARGE :
EDUCATION: DIAGNOSIS :

MEDICAL OFFICER'S SIGNATURE

CLINICAL FEATURES

S.No.	Clinical Features	During Admission	During Discharge
1.	Running nose		
2.	Heaviness of the head		
3.	Excessive Salivation		
4.	Throat pain		
5.	Ear Pain		
6.	Pain & Tenderness in PNS area		
7.	Recurrent sneezing		
8.	Nasal congestion		
9.	Nasal Irritation		
10.	Irritation and Watering of the eyes		
11.	Head Ache		
12	Cough & Expectoration		
13.	Fever		
14.	Voice changes		
15.	Epistaxis		

+++ Severe ++Moderate +Mild -Nil

RESULTS AND OBSERVATIONS

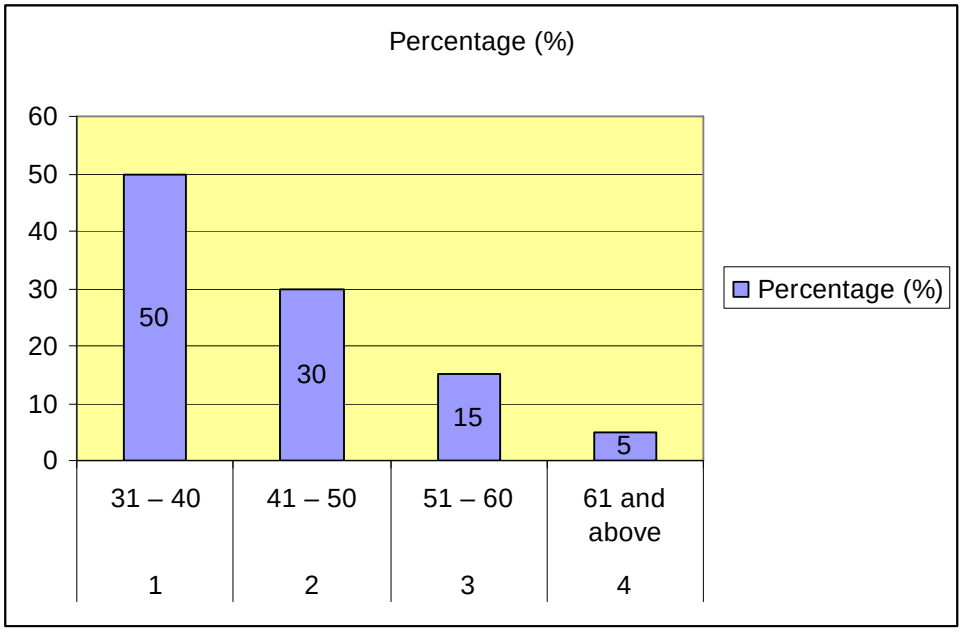
20 cases were admitted in the inpatient ward Arignar Anna Hospital, Chennai-106, for the clinical study of Azhal Thalainokkadu.

Other 20 cases were treated as outpatients in Post Graduate Maruthuvam Department. The trial drugs were given to the patients and observations were made during the course of study with regard to the following features.

1. Age distribution
2. Kaalam distribution (as per siddha aspect)
3. Sex distribution
4. Socio economic status
5. Distribution of Thinai
6. Paruvakalam
7. Predisposing factors
8. Duration of illness
9. Associated disease
10. Poriyal arithal
11. Pulanal arithal
12. Mukkutram
13. Udal Kattukkal
14. Envagai Thervu
15. Signs and Symptoms (before and after treatment)
16. Overall Results

1. AGE DISTRIBUTION

Sl.No.	Age	No. of cases (20)	Percentage (%)
1.	31 – 40	10	50
2.	41 – 50	6	30
3.	51 – 60	3	15
4.	61 and above	1	5

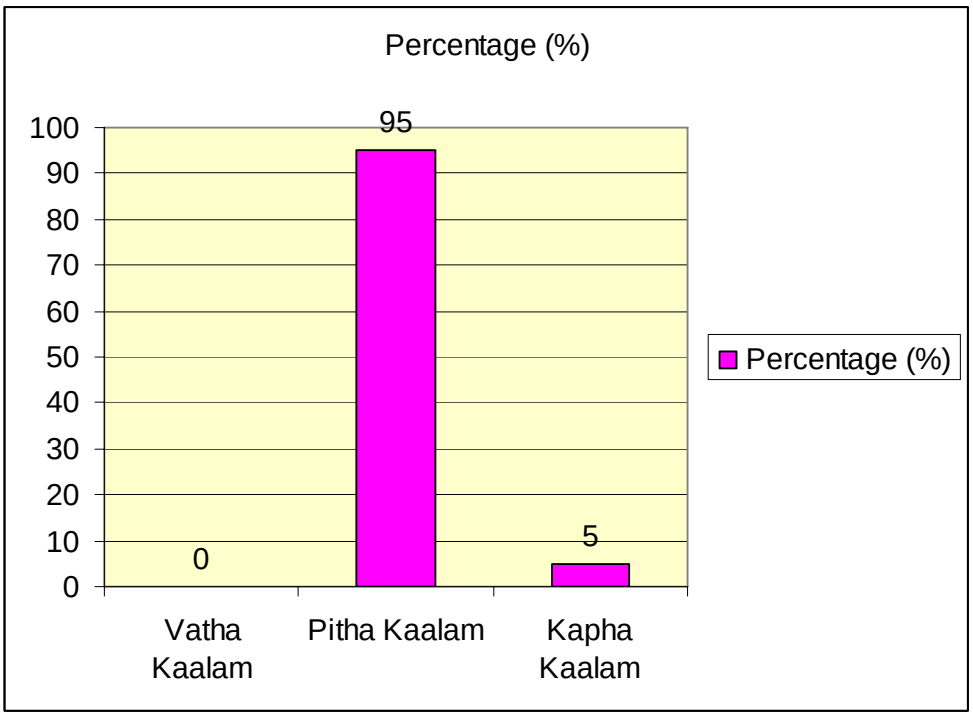


Inference:

Out of 20 cases, 50% of the cases were between 31 – 40 years of age group. 30% of cases were between 41 – 50, 15 % of cases were between 51 – 60 % and 5% of cases were between 61 and above.

2. KAALAM DISTRIBUTION

Sl.No.	Kaalam	No. of cases (20)	Percentage (%)
1.	Vatha Kaalam	0	0
3.	Pitha Kaalam	19	95
2.	Kapha Kaalam	1	5

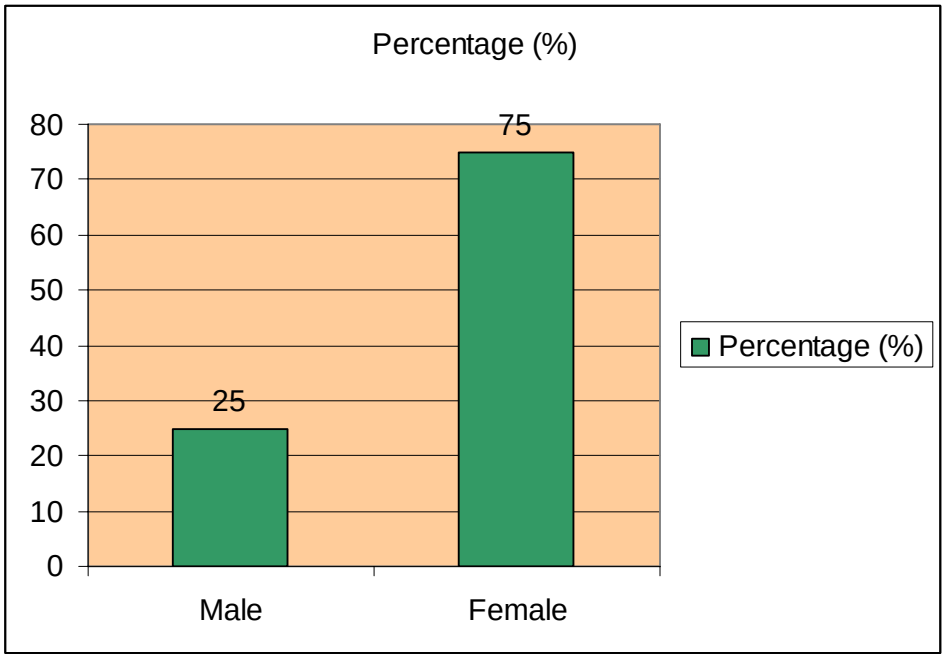


Inference:

According to our literature human life can be classified into three periods with respect to Vatha, Pitha, Kapha dominance. Considering this account, out of the 20 cases, most of them were in Pitha Kaalam.

3. SEX DISTRIBUTION

Sl.No.	Sex	No. of cases (20)	Percentage (%)
1.	Male	5	25
2.	Female	15	75

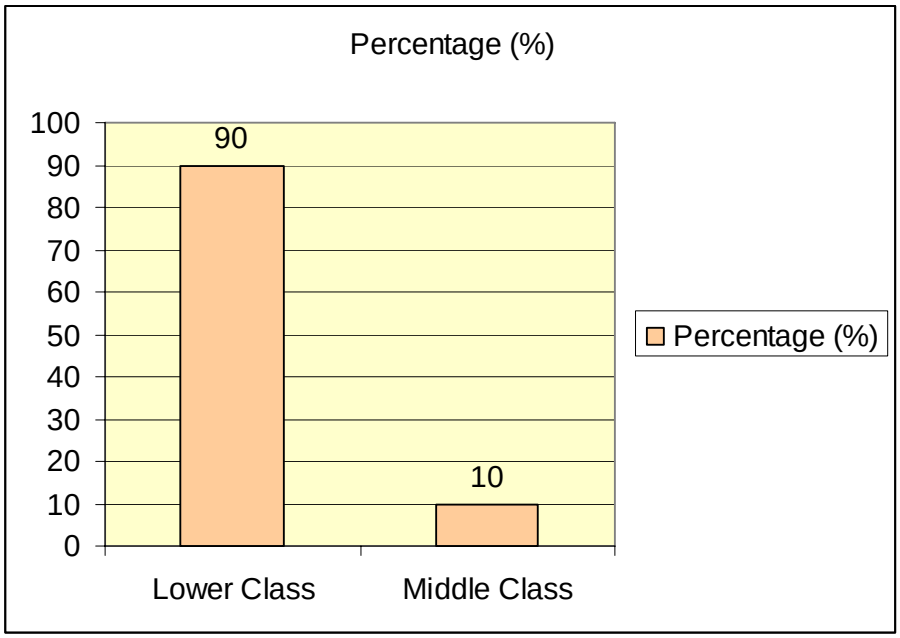


Inference:

From selected 20 cses 25% of cases were male 75% cases were female.

4. SOCIO – ECONOMIC STATUS

Sl.No.	Socio Economic Status	No. of cases (20)	Percentage (%)
1.	Lower Class	18	90
2.	Middle Class	2	10

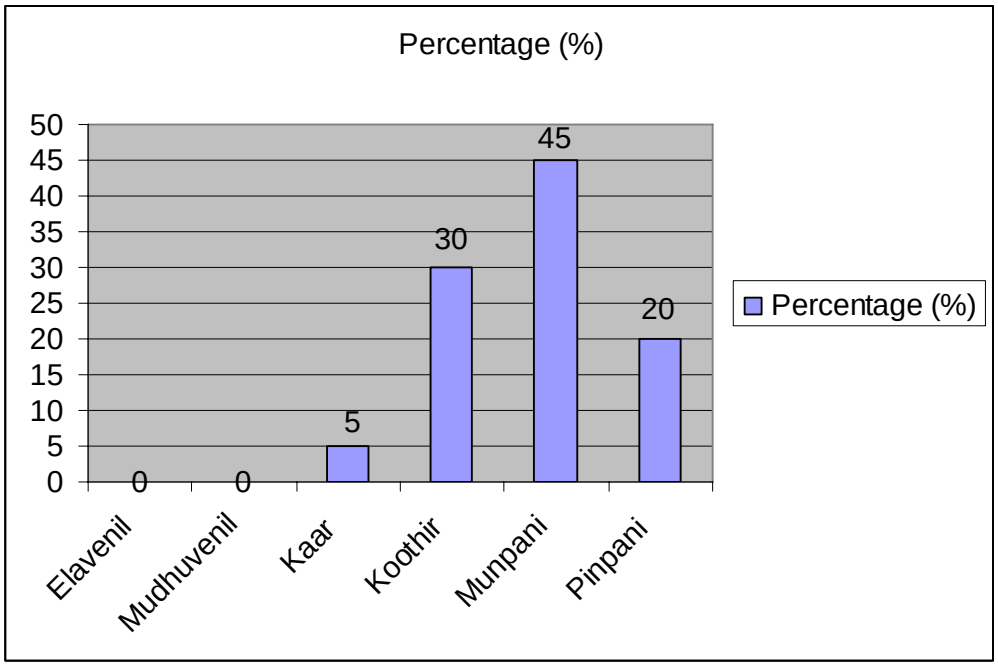


Inference:

Out of 20 cases most of the cases from lower class such as Coolies and slum dwellers.

5. SEASONAL REFERENCE

Sl.No.	Paruva Kaalam	No. of cases (20)	Percentage (%)
1.	Elavenil	0	0
2.	Mudhuvenil	0	0
3.	Kaar	1	5
4.	Koothir	6	30
5.	Munpani	9	45
6.	Pinpani	4	20

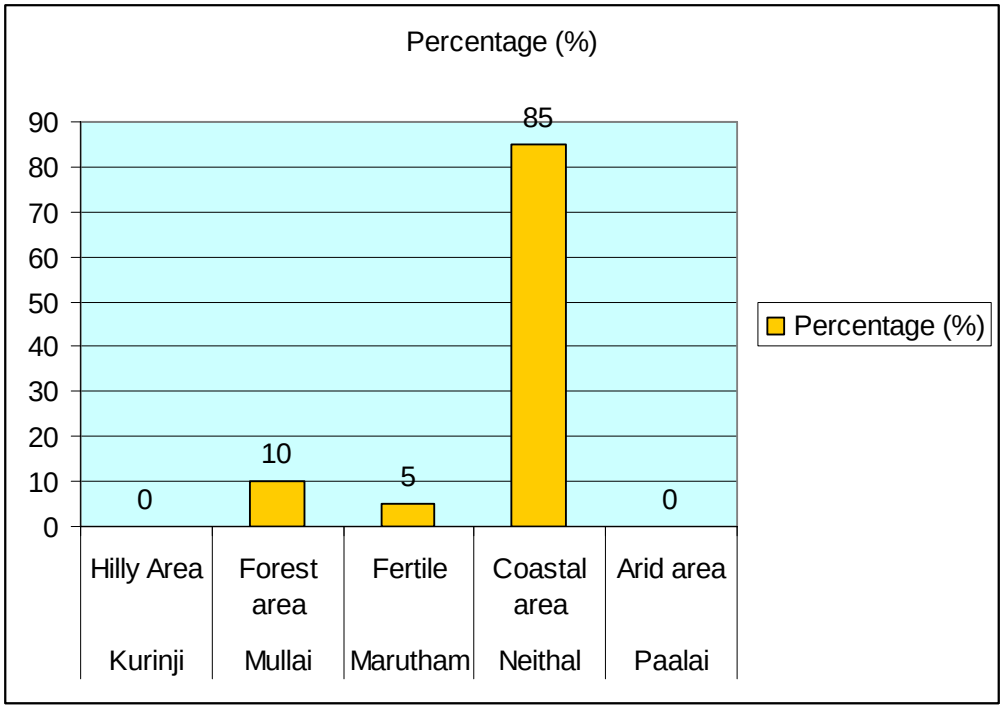


Inference:

Majority of cases, suffered during Munpani (60%), during Koothir 30%, during pinpani 20% and during Kaar Kaalam 5% were affected.

6. THINAI REFERENCE

Sl.No.	Thinai	Synonym	No. of cases (20)	Percentage (%)
1.	Kurinji	Hilly Area	0	0
2.	Mullai	Forest area	2	10
3.	Marutham	Fertile	1	5
4.	Neithal	Coastal area	17	85
5.	Paalai	Arid area	0	0

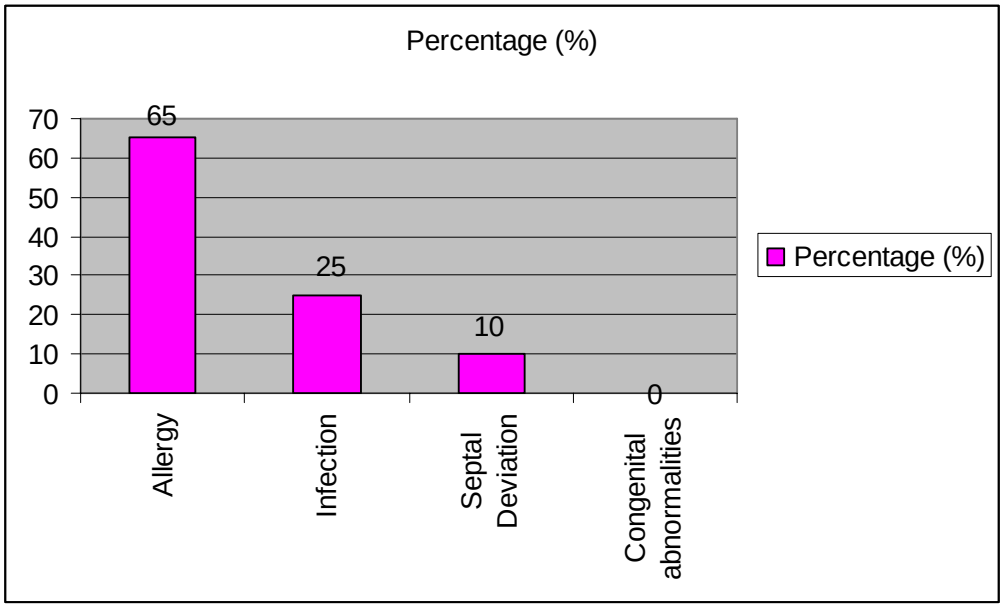


Inference:

Out of 20 cases, most of the cases i.e., 85 % came from Neithal Nilam. 10% cases from Mullai, 5% cases from Marutham.

7. PREDISPOSING FACTORS

Sl.No.	Factors	No. of cases (20)	Percentage (%)
1.	Allergy	13	65
2.	Infection	5	25
3.	Septal Deviation	2	10
4.	Congenital abnormalities	0	0

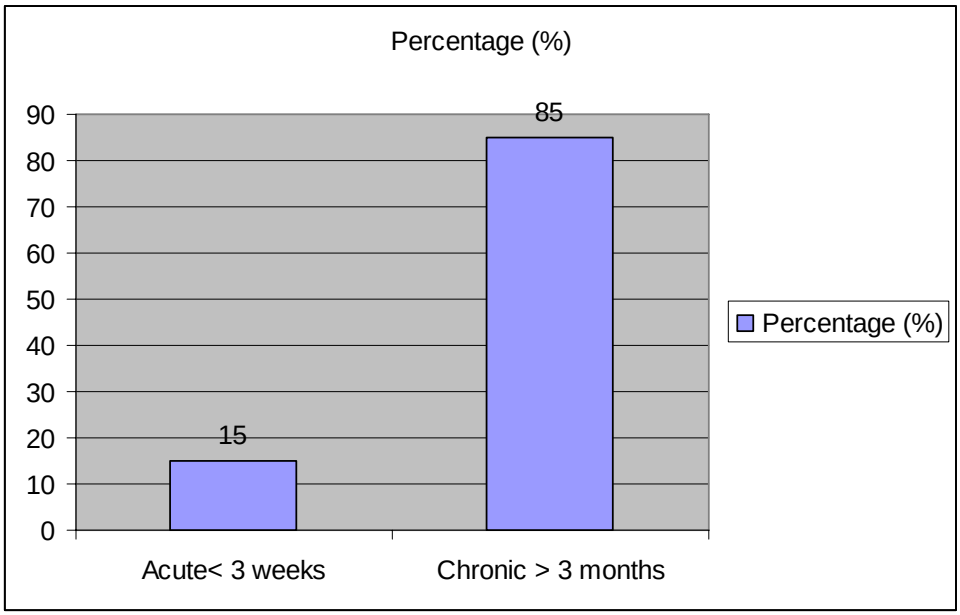


Inference:

Among 20 cases 65% of cases were due to allergy and 10% cases were due to septal deviations and 25% of cases were due to infection.

8. DURATION OF ILLNESS

Sl.No.	Duration	No. of cases (20)	Percentage (%)
1.	Acute< 3 weeks	3	15
2.	Chronic > 3 months	17	85



Inference:

Majority of them are chronic sufferer. 85% of cases were in chronic state and only 15% of cases were in acute state of the disease.

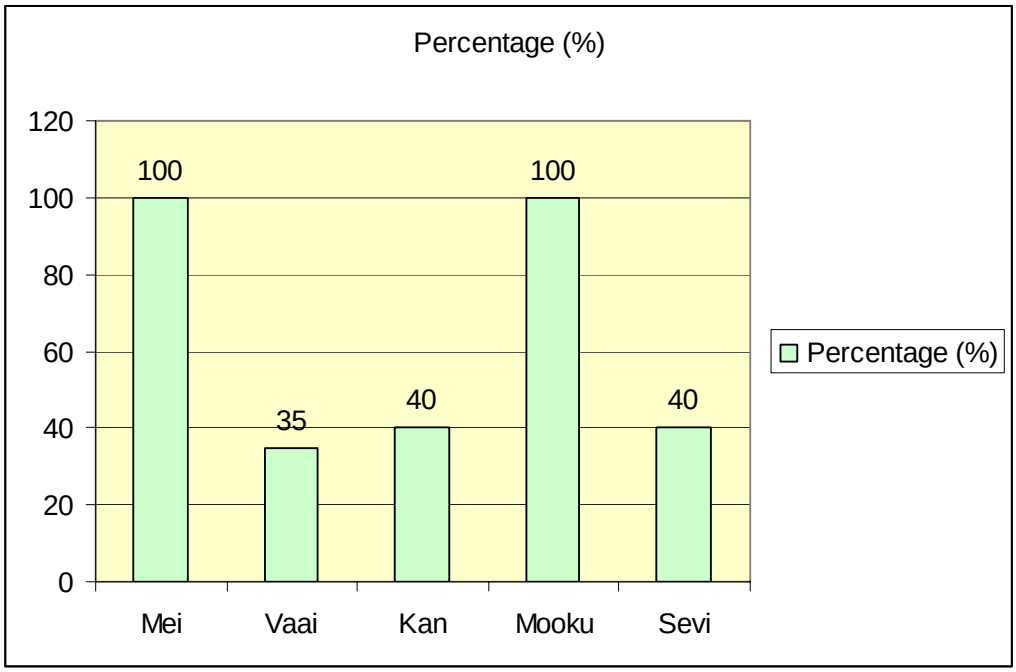
9. ASSOCIATED DISEASES:

Disease	No. of cases	Percentage (%)
Rhinitis	7	35
Asthma	2	16
Nasal Polyps	1	5

Out of 20 cases 50% of cases were having associated diseases. In which 35% were with rhinitis, 10% with asthma and 5% with nasal polyp.

10. PORIYAL ARITHAL

Sl.No.	Pori	No. of cases (20)	Percentage (%)
1.	Mei	20	100
2.	Vaai	7	35
3.	Kan	8	40
4.	Mooku	20	100
5.	Sevi	8	40

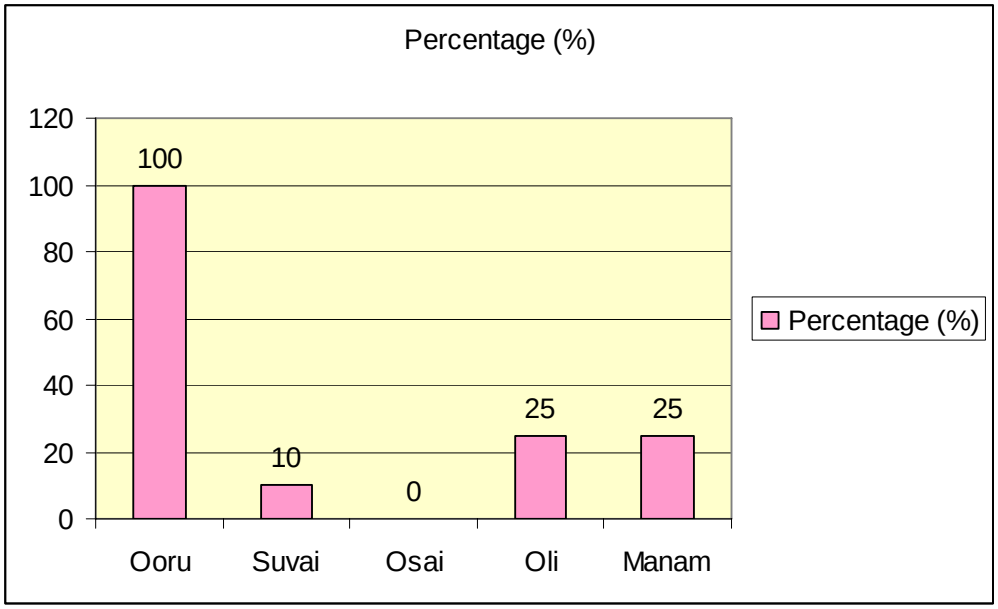


Inference:

In all cases, Mooku and Mei are affected 40% of cases are affected by Kan and Sevi. 35% are affected by Vaai.

11. PULANAL ARITHAL

Sl.No.	Pulan	No. of cases (20)	Percentage (%)
1.	Ooru	20	100
2.	Suvai	2	10
3.	Osai	0	0
4.	Oli	5	25
5..	Manam	5	25



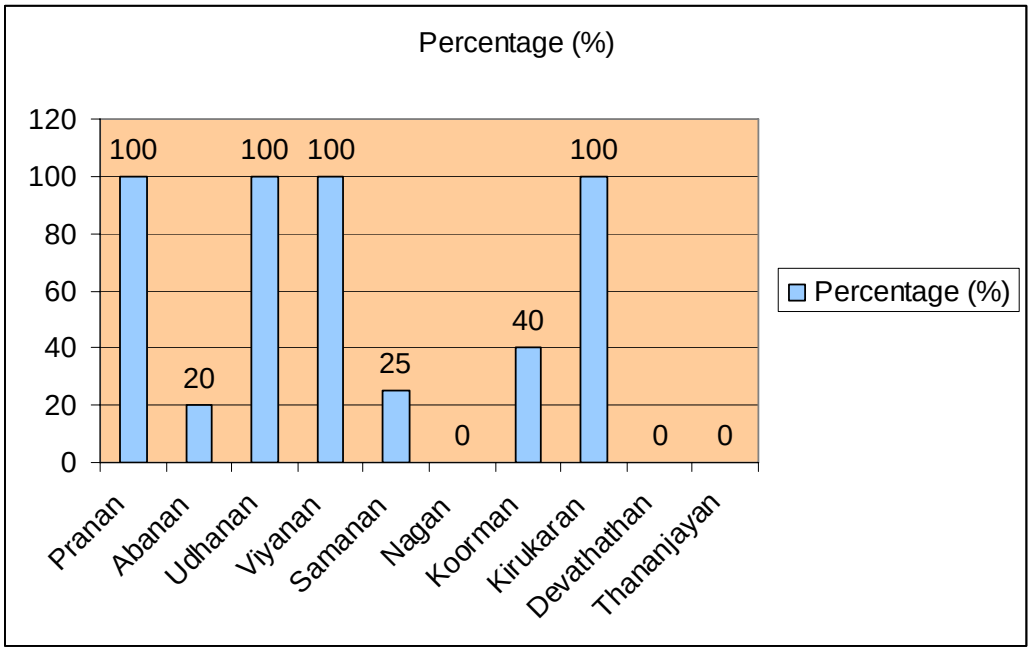
Inference:

Ooru is affected in all cases. 25% of cases affected by oli and manam and 10% by suvai.

12. MUKKUTRAM

A.VALI

Sl.No.	Type	No. of cases (20)	Percentage (%)
1.	Pranan	20	100
2.	Abanan	4	20
3.	Udhanan	20	100
4.	Viyanan	20	100
5.	Samanan	5	25
6.	Nagan	0	0
7.	Koorman	8	40
8.	Kirukaran	20	100
8.	Devathathan	0	0
9.	Thananjayan	0	0

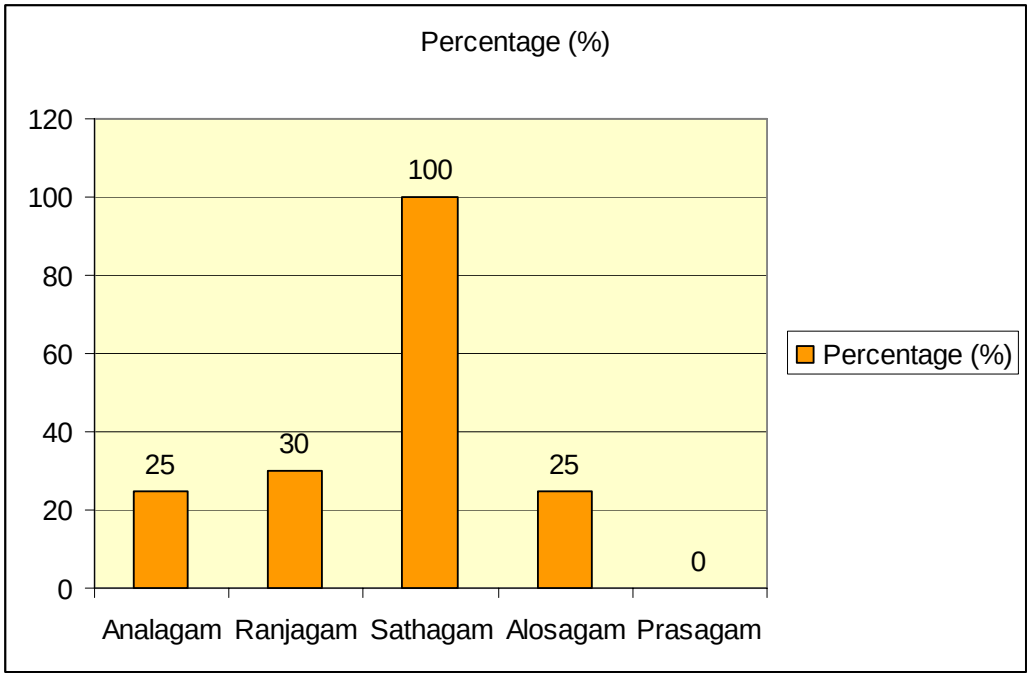


Inference:

Out of 20 cases, Pranan, Viyanan, Udhanan, Kirukarn are affected in all cases, 40% of cases affected by Koorman, 20% cases affected by Abanan and 25% of cases affected by Samanan.

B. AZHAL

Sl.No.	Type	No. of cases (20)	Percentage (%)
1.	Analagam	5	25
2.	Ranjagam	6	30
3.	Sathagam	20	100
4.	Alosagam	5	25
5.	Prasagam	0	0

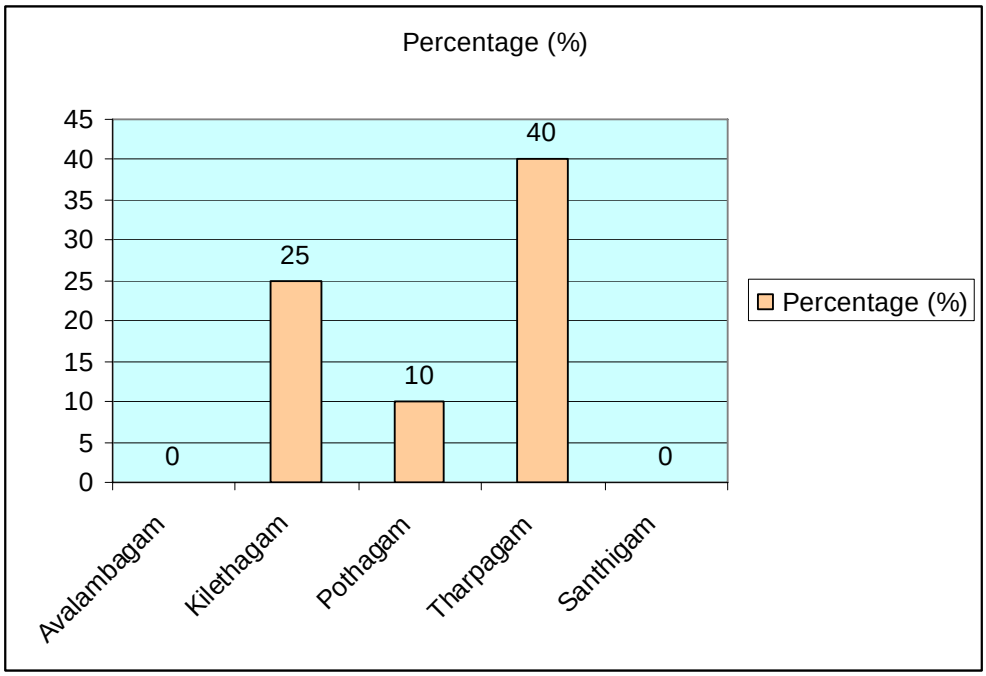


Inference:

Sathagam is affected in all cases. 25% cases affected by Analagam and Alosagam, 30% of cases are affected by Ranjagam.

C. IYAM

Sl.No.	Type	No. of cases (20)	Percentage (%)
1.	Avalambagam	0	0
2.	Kilethagam	5	25
3.	Pothagam	2	10
4.	Tharpagam	8	40
5.	Santhigam	0	0

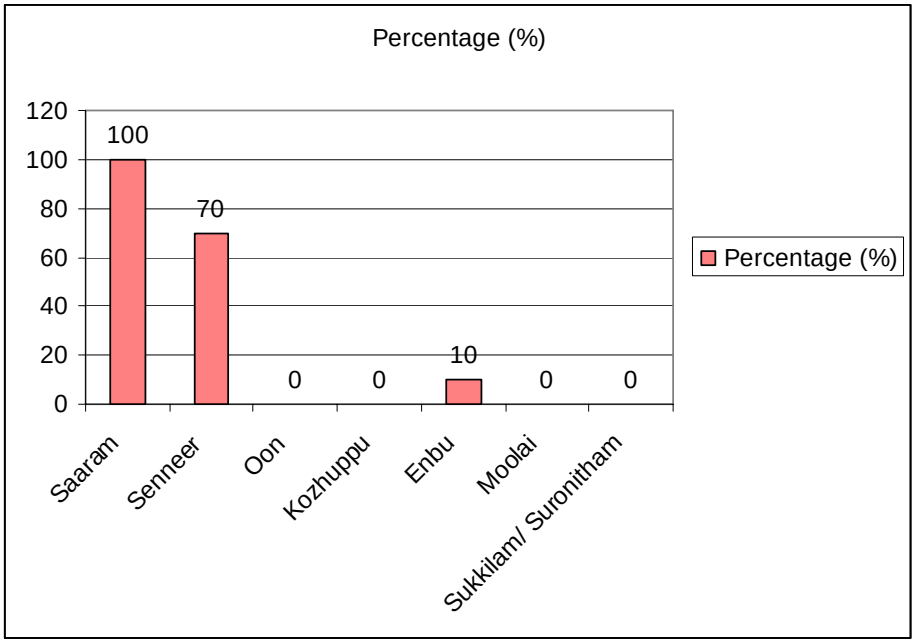


Inference:

Out of 20 cases, Kilethagam are affected in 25%. Pothagam affected in 10% of cases and Tharpagam in 40% of cases.

13. UDAL KATTUKKAL

Sl.No.	Type	No. of cases (20)	Percentage (%)
1.	Saaram	20	100
2.	Senneer	14	70
3.	Oon	0	0
4.	Kozhuppu	0	0
5.	Enbu	2	10
6.	Moolai	0	0
7.	Sukkilam/ Suronitham	0	0

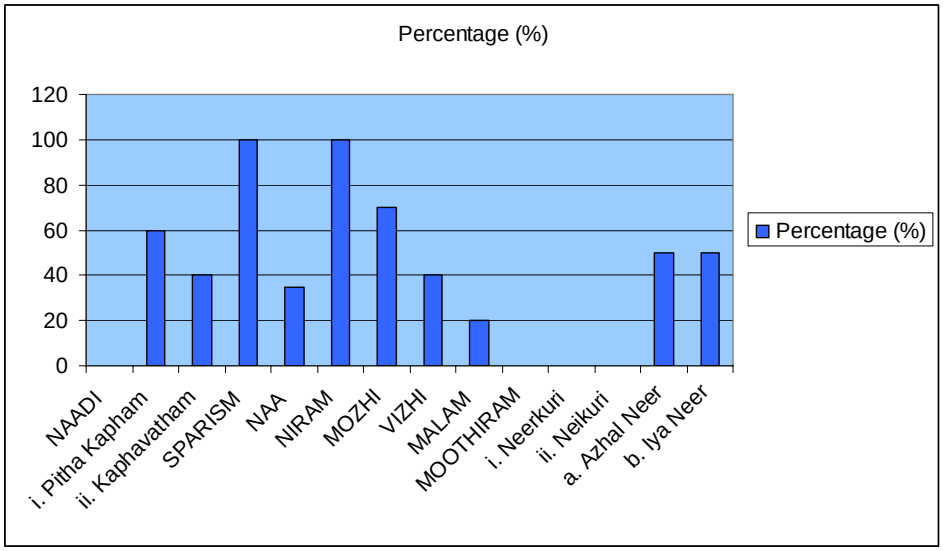


Inference:

Regarding to ezhu Udarkattukkal, 100% of cases affected by Saaram, 70% of cases affected by Senneer and 10% of cases affected by Enbu.

14. ENVAGAI THERVU

Sl.No.	Types	No. of cases (20)	Percentage (%)
1.	NAADI		
	i. Pitha Kapham	12	60
	ii. Kaphavatham	8	40
2.	SPARISM	20	100
3.	NAA	7	35
4.	NIRAM	20	100
5.	MOZHI	14	70
6.	VIZHI	8	40
7.	MALAM	4	20
8.	MOOTHIRAM		
	i. Neerkuri		
	ii. Neikuri		
	a. Azhal Neer	10	50
	b. Iya Neer	10	50

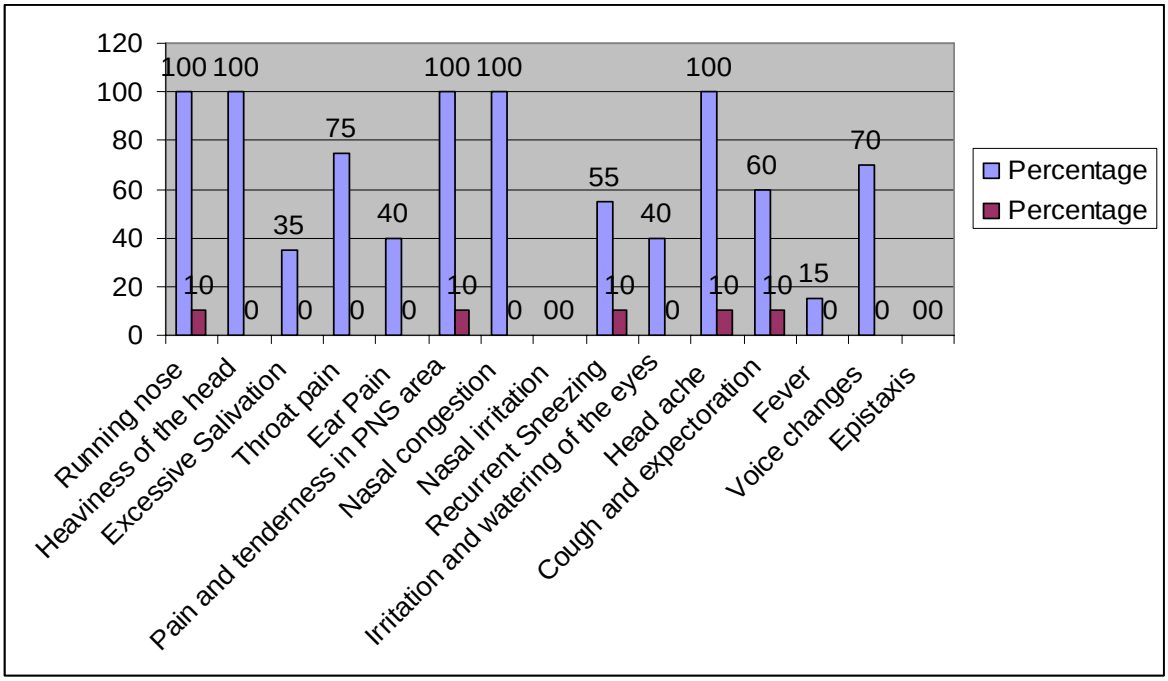


Inference:

Regarding to envagai thervu sparism, niram are affected in all cases. Mozhi is affected in 70% of cases, vizhi is affected in 40% of cases. Naa is affected in 35% of cases and Malam is affected in 20% of cases. Considering the Naadi 60% of patients had Pitha Kapham and 40% patients had Kapha Vatham. In Neikuri, 50% of cases show Azhal Neer and 50% cases show Iya Neer.

16. CLINICAL FEATURES

S.No.	Clinical Features	Before Treatment No. of cases	Percentage	After treatment No. of cases	Percentage
1.	Running nose	20	100	0	10
2.	Heaviness of the head	20	100	20	0
3.	Excessive Salivation	7	35	0	0
4.	Throat pain	15	75	0	0
5.	Ear Pain	8	40	0	0
6.	Pain and tenderness in PNS area	20	100	2	10
7.	Nasal congestion	20	100	0	0
8.	Nasal irritation	11	0	0	0
9.	Recurrent Sneezing	11	55	2	10
10.	Irritation and watering of the eyes	8	40	0	0
11.	Head ache	20	100	2	10
12.	Cough and expectoration	12	60	2	10
13.	Fever	3	15	0	0
14.	Voice changes	14	70	0	0
15.	Epistaxis				

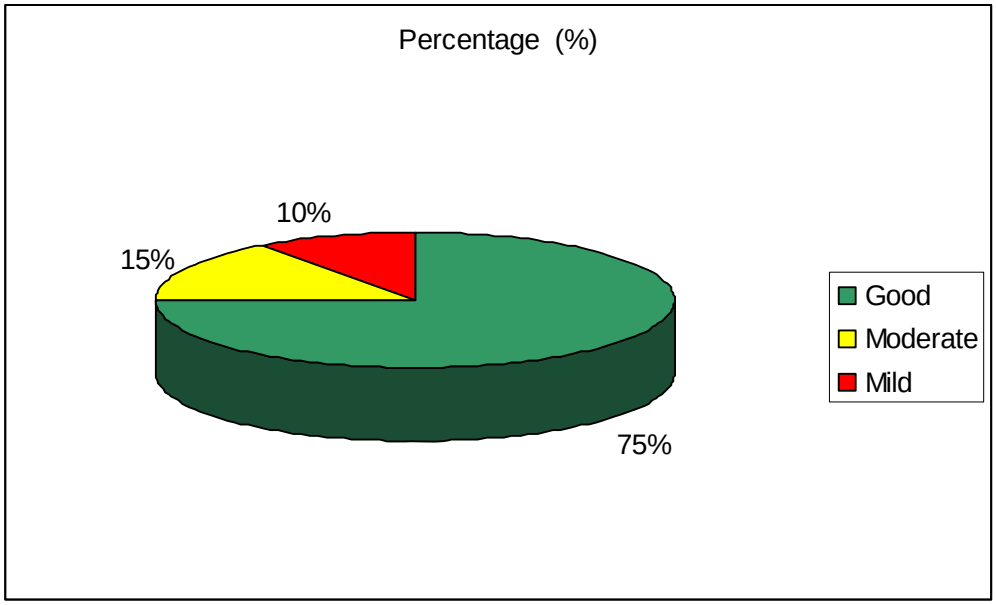


Inference:

Out of 20 cases all of the cases having the symptoms such as nasal congestion, nasal discharge, heaviness of the head, pain and tenderness in PNS area, Head ache, 75% of cases having throat pain, 70% of cases having voice changes, 60%of cases having cough and expectoration, 55% of cases having nasal irritation, sneezing 40% cases having earpain and Irritation and watering of the eye, 35% of cases having excessive salivation and 15% cases having fever during admission. During the discharge only 10% of cases having heaviness of head, Pain and tenderness in the PNS area, recurrent sneezing, head ache and cough and expectoration.

17. OVERALL RESULTS

Sl.No.	Results	No. of cases (20)	Percentage (%)
1.	Good	15	75
2.	Moderate	3	15
3.	Mild	2	10



Inference:

Out of 20 cases 75% of cases having good result, 15% of cases having moderate results and 10% of cases having mild result.

DISCUSSION

Azhal thalai nokkadu a clinical entity described by Yugimunivar in his Yugi Vaidya chinthamani, is the one among the ten types of headache dealt in vatha disease. The classical clinical features are rhinitis, heaviness of head, increased salivation, throat inflammation, ear pain, pain in the medial canthus of eyes and base of the nasal bridge. These features can be very well compared with that of the head ache due to maxillary sinusitis. It is a common disorder in all societies and age groups.

20 cases of both sex were selected and admitted in the inpatient ward of Arignar Anna Government Hospital of Indian Medicine attached to Government Siddha Medical College, Arumbakkam, Chennai – 106. All necessary investigations were carried out to all patients and trial drugs were given. Daily followup were done. All the cases attended the OP after discharge from the inpatient ward. Total duration of treatment ranges from 30-45 days.

Age Distribution:

Maxillary sinuses are present at birth and infections of these sinus is quite common in children. But in the study there was no case below 15 years. 50% of cases come under the age group of 31 – 40, 30% cases under 41 – 50 , 15% case under 51 – 60 and above 60 years.

Hence age did not play a major role in manifestation of the diseases. High incidence of cases were noted in age group of 35 – 55, during the study.

Kaalam distribution (Age –as per Siddha aspect)

From the inference, out of the 20 cases, most of them were in Pitha Kaalam.

Sex Distribution:

Out of 20 cases, 75% of cases were females and 25% of cases were males. From the study more percentage of females were affected than male.

Socio Economic Status:

During the study, 90% of cases were from poor socio economic status and 10% from middle class society. People living in poor socio economic status were more affected because of poor nutrition and unhygienic environment which facilitates the infections and allergic reactions.

Thinai Distribution:

According to Siddhars Neithal nilam is prone to Vathapitha diseases and Azhal thalainokkadu comes under this classification. As per the study 85% of patients came from neithal nilam (coastal area) i.e. more of Chennai based patients indicating the prevalence of disease to be more as mentioned.

10% of cases were from Mullai nilam.

5% of cases were from Marutha nilam.Though Marutha nilam is the land- free from diseases, the exploitation of land for industrial purpose predisposes environmental pollution leading to occurance of the disease occasionally.

Paruva kaalam :

From the inference, 45% cases came during Munpani, 30% cases during Koothir, 20% during Pinpani and 5% affected during Kaarkaalam.

Aetiological distribution:

The aetiological factors explained by siddhars are suppression of 14 (reflexes) vegangal, avoiding oil bath, taking bath in mountain spring water, smoking, exposure to chill weather, lifting or carrying heavy loads, disturbances of sleep and drinking fresh rain water. In modern medicine, allergy, diabetes mellitus, unfavourable environmental factors, congenital abnormalities, septal deviation, taking bath in polluted water and infections predispose to the disease.

The aetiological factors are more or less similar to that o factors told by siddhars.

During the study 65% of cases were due to allergy and 25% miscellanious cause, in which environmental factor and infection plays a major role and 10% due to septal deviation. From the study more percentage of cases come due to allergy and environmental pollution and it is described as main aetiological factor in both system.

Duration of illness:

During the study 15% of cases were in acute stage and 85% in chronic condition.

Clinical Features:

Yugi explained the clinical features as, rhinitis, heaviness of head, increased salivation, throat inflammation, pain in the medial canthus of eye and base of nasal bridge and ear pain. The feature explained in modern medicine are pain is generally localized over maxillary sinus and referred to upper Molar, eyes frontal sinus and in ear. Running nose is a common feature, drycough, heaviness of head, malaise, pain and tenderness in the maxillary area are the other features. Thus the clinical feature explained by Yugi is more or less same. Similarly, from the study, all cases had heaviness of head, pain and tenderness in maxillary region, 55% had recurrent sneezing and 100% had running nose.

Associated diseases:

50% of cases had associated diseases, out of 20 cases in which 35% of cases had Rhinitis. Sinusitis appears to be common with respiratory allergy as demonstrated by Rachelefsky et al, who observed, 70 cases with allergic rhinitis, 53% had abnormal sinusitis and 21% had opacified maxillary sinuses.

During the study 10% of cases had asthma. According to Burnico et al 63% had abnormal finding of X-ray sinuses while evaluating 80 asthmatic

patients. Hence the occurence of asthma and sinusitis in the same patient is established.

Clinical Examination

Siddha Aspects

Mukkutram:

All cases had derangement of Pranan, Viyanan, Udhanan, Kirukaran, in vali kutram and saadhagam in Azhal kutram.

In 25% cases - Analagam and Alosagam,

In 35% cases - Ranjagam,

among Azhal kutram were affected specifically.

In Iya kutram,

40% cases had involvement of affected Tharpagam, 25% kilathagam and in 10% cases Podhagam got affected.

Pranan & Udhanan were affected causing nasal discharge, nasal congestion, cough & Voice –changes. Kirukaran was affected causing recurrent sneezing, nasal discharge, excessive salivation and cough. Viyanan was affected causing headache, heaviness of head, pain and tenderness in the affected paranasal sinus region and fever. Abaanan was affected causing constipation. Samanan was affected causing loss of appetite. Koorman was affected causing diminished vision (Probably due to the old age) and watering of eyes. Devadhathan was affected causing sleeping disturbances.

Pitham was deranged in some cases. Anarpitham was affected causing loss of appetite. Ranjagapitham was affected causing anaemia & Alosagapitham was affected causing diminished vision.

Udal Kattugal

Saaram was affected in all cases and senneer in 75% of cases enbu in 10% of cases. Saaram was affected causing tiredness. Senneer was affected causing ESR, Absolute eosinophil count raised and Hb reduced. Enbu was affected causing deviated nasal septum.

Envagai Thervu

According to this study 60% of cases had pitha kapha naadi and 40% of cases had kapha vatha naadi.

- Naa- Excessive Salivation seen in 35% of cases.
- Niram- Nasal mucosa was inflammed with redness in all cases
- Mozhi- affected in 70% of cases having hoarseness of voice.
- Vizhi- the colour of conjunctiva were red in 40% of cases who had irritation over eyes, continuous sneezing and watering of eyes, were present in 40% of cases only.
- Sparisam- pain and tenderness in maxillary region was present in all cases.
- Malam -20% patients had hard stools.
- Moothiram – Neikuri- 50% of cases had reflected Azhal Neer and 50% of cases reflected Iya neer.

Interpretation with Blood Investigations:

In blood Tc, DC, ESR, Hb were investigated and for patient having infection as aetiology (20%) had an apparent increase in ESR and eosinophil indicating increase in case of allergic aetiology.

Treatment

In the trial drug "*Sira noi Chooranam"*

Karunjeeragam, Sirunaagappoo, Sathakuppai have anti-vatha property.

Adhimadhuram, Lavangam, Jeeragam, Kothamalli, have good antipitha property. So combination of these drugs were indicated for neutralising the deranged Kuttrams.

Karunjeeragam has effective anti-histaminic activity:

Nigellone is the constitution of the essential oil. It is found to be active in protecting guinea pigs, against histamine- induced bronchospasm.

Mesua Ferra has antibiotic activity and anti bacterial activity.

So the drug acts against infection.

Pharmacologically the drugs have potent analgesic effect anti-inflammatory, and anti-histaminic action.

The biochemical analysis shows acid radicals Sulphates, Phosphate, Fluoride, Borate ,Oxalate & Basic radical iron, Calcium, Magnesium & Miscellanious such as Alkaloids, Amino acids, Tannic Acid, Starch, Reducing Sugar, Albumin.

The micro biological study of *Siranoi Chooranam* & that it is highly sensitive for Staphylococcus aureus and moderate sensitive to Escherichia coli.

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Siddhars explained oil bath, nasiyam and akkiranam, for the cure, of most of the diseases occuring in head.

Peenasa Thylam (Nasal drops) is indicated for head ache, nasal congestion and the ingredients of Peenasa Thylam have property of treating head ache.

Regarding Peenasa Thylam it place very important role in correcting the clinical picture of Azhal Thalai nokkadu by producing local anti-septic, anti-spasmodic, anodyne and astringent action. Lyzozyme is found in nasal secretions, which is responsible for destroying certain bacteria at acidic pH. That this acidic pH factor is present in Peenasa Thylam is proved by lab report. Pon Musuttai root having Immuno modulator activity. So protects the mucous membranes from infection and infestation.

Both the drugs have the presence of tannic acid which protects mucous membrance of the nose from inflammation.

All the cases were treated with trial drugs for a period ranging from 30-45 days. The trial medicines are

a) *Sira Noi Chooranam* - 1 to 2gm, twice a day, with hot water after food.

b) *Peenasa Thylam* - 3 drops, each nostril for 10days

All the patients were advised to do yoga and Pranayama properly, during and after treatment. No adverse effects were noticed during the study.

It was observed that this trial study showed significant clinical improvement in certain clinical manifestation of Azhal Thalai Nokkadu.

Raised Eosinophilic count significantly reduced and marginal decrease in ESR level in all patients. A trend of nomial increase in haemoglobin level was also noticed in anaemic patients that is quite possible because of the improvement in their health.

X ray PNS was taken again in order to make an assessment of the cure. 50% cases showed normal findings and other 40% cases showed mild haziness of the affected sinuses and 10% revealed no improvement.

Among 20 patients , 1o patients got relieved completely from the signs and symptoms and post X ray (PNS) revealed normal findings. 5 Patients got relieved completely from the signs and symptoms and the post X ray revealed mild hazziness in the affected sinuses. Totally this is taken as the 75% good result. Another 3 patients showed moderate clinical response and mild hazziness pain in the affected sinuses and this is taken has 15% moderate results. Remaining 2 patients did not reveal any improvement in X ray results. But clinically improved. This shows 10% mild result.

SUMMARY

A study on Azhal Thalainokkadu, which has clinical features as like that of headache due to maxillary sinusitis is carried out by the author in Post Graduate Department of Maruthuvam, Govt.Siddha Medical College, Chennai.

A detailed study was carried out in various siddha literatures regarding the aetiology of disease, clinical features, mukkutra Nilai, Ezhu udalkattugal nilai and changes in Ennvagai thervugal.

20 cases who fulfilled the stipulated criteria were admitted in the inpatient ward of Arignar Anna Government Hospital of Indian Medicine attached to Government Siddha Medical College, Arumbakkam, Chennai – 600 106. The trial drug regimen prescribed for the patients were.

1. **Sira Noikku Choornam 1-g- BD – Hotwater after food.**
2. **Peenasa Thylam - 3 drops each nostril – 2 times a day.**

The duration of treatment ranges from 30 to 45 days.

Clinical and pathological assessment was carried out on the basis of both Siddha and Modern Medical aspects.

The results obtained from the study is summarised as follows:

- More percentage of females were affected than male.
- High incidence of cases were noted in Pitha Kaalam.
- The study reveals 90% of cases from poor socio economic status
- The incidence of disease occur more in Neithal Nilam i.e more of Chennai based patients.
- More percentage of cases came due to Allergic aetiology.
- 50% cases had associated diseases.
- On examination Uyir Thathukkal were deranged.
- In Vali – Pranan, Viyanan, Udhanan, Kirukaran and Samaanan.
- In Azhal – Sadhagam in all cases Alosagam in 25%, Ranjagam 30% In Iyam – Kliethagam 25%, Tharpagam 40%, Podhagam 10%.

- All the cases had involvement of Saaram in Udal Kattukkal – Senneer 70%.
- According to Envagi Thervu – Sparisam and Niram affected in all cases – Mozhi affected in 70%, Hoarseness of voice, Vizhi affected in 40%, Irritation and watering of eyes.
- In all cases Naadi was predominantly Pitha Kapham or Kapha Vatham.
- Neikuri reflected Azhal Neer and Iya Neer.
- All the cases were positive X-ray findings of Maxillary sinusitis and apparent raise of ESR in case of infectious aetiology.
- All the cases were treated with trial drug aetiology for a period ranging from 30-45 days. No adverse effects noted.
- The Pharmacological analysis shows that the trial drugs are having analgesic, Anti inflammatory and Anti histaminic action. Anti microbial analysis shows that the drug is highly sensitive to staphylococcus aureus moderately sensitive to E.coli.
- 75% of cases had shown good improvement 15% of cases with moderate results and 10% shown mild improvement.

CONCLUSION

Treatment:

Thalai nokkadu is primarily due to the variations in the intrinsic and extrinsic factors, vali deranges its equilibrium. In Azhal Thalai Naokkadu subsequently Azhal also gets deranged with Vali causing pathological changes which results in running nose, with excessive salivation and headache, heaviness of head, inflammation.

1. “thjnkè£lhš kJu« òëÍ¥ò
nrjKw¢ brŒÍ« Áiw iaa« - Xj¡nfŸ
fhuªJt® fr¥ò¡ fh£LŠ RitbašyhŠ
rhu¥ gçfhuŠ rh‰W”

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vŒ¥gilÍ bk‹W iu¤jhç§F”

-f©Qrhäa« vD« it¤Âa nrfu« g¡f« 23

According to above quotations, Inippu Suvai neutralizes the increased vali Azhal and kept he vital forces Vali, Azhal in its normal place. The trial medicine has got Inippu Suvai and this Inippu. Suvai sets right increased vali. Azhal which is suitable for Thalainokkdu. This medicine is acting as Ethirurai principle in treating Azhal Thalai Nokkadu.

Peenasa Thylam have potent astringent action. So it reduces the inflammation of the mucous membranes of the nasal cavity & Para nasal sinuses.

The clinical, Microbiological, Biochemical analysis show that the above drugs are free from toxicities and clearly emphasis the effectiveness of the drug.

The drugs are easily available and the dosage is also convenient.

The preparation of the trial drug is simple.

No adverse effects were observed during the entire course of treatment.

Cost of drug is very cheap compared with other drugs.

So It is concluded that in a developing country like ours, the combined theraphy with Siranoi Chooranam and Peenasa Thylam can be very good in the view of efficacy and safety in the Chemotheraphy for “Azhal Thalai Nokkadu”

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STATISTICAL ANALYSIS OF CLINICAL STUDY

(BIO STATISTICS)

Parameters for Analysis

I. Subjective Para Meters (Clinical Features)

- ❖ Running Nose with nasal congestion
- ❖ Headache with heaviness of head
- ❖ Recurrent sneezing
- ❖ Pain & Tenderness in PNS area

II Objective Parameter (Laboratory Investigation)

- ❖ Eosinophil count

  The parameters observed were analysed before and after treatment in 20 number of patients

Methods of analysis

I. P-Value of the subjective parameters were analysed .

II. Paired t-test for objective parameter was done.

Results

1. Probability value of subjective parameters were
   - ❖ Running Nose with nasal congestion - P=0.001
   - ❖ Headache with heaviness of head - P=0.000
   - ❖ Recurrent sneezing - P=0.002
   - ❖ Pain & Tenderness in PNS area - P=0.000

2. Paired t-test value of objective parameter was
   - ❖ Eosinophil count - t-Value=0.894

STATISTICAL ANALYSIS OF SUBJECTIVE & OBJECTIVE PARAMETERS OBSERVED BEFORE & AFTER TREATAMENT OF PATIENTS

S.No	Parameter	Percentage			Statistical test criterion	Probability values	Significance
		Before Reaction	After Reaction	Difference			
Subjective							
1.	Running nose with nasal congestion	100.0± 26.832	100.0± 26.832	0.001± 0.21	26.832	P<0.001	*** (Highly significant)
2.	Headache with heaviness of head	100.0± 26.832	90.0± 17.883	10.35± 0.982	17.944	P<0.000	*** (Highly significant)
3.	Recurrent Sneeing	55.0± 22.509	45.0± 8.944	10.0± 0.328	22.509	P<0.002	** significant
4	Pain & Tenderness in PNS area	100.0± 26.832	90.0± 17.883	10.35± 0.982	17.944	P<0.000	*** (Highly significant)
Objective							
1.	Eosinophil count	6.816± 0.894	2.75± 0.940	4.85± 0.172	0.894	P<0.000	*** (Highly significant)

n=20 : Values are expressed as mean ± S.D followed by student one sample t-test

(***)P<0.001, (**) P<0.003, (*) P<0.005 as compared with that of before and after treatment.

LABORATORY INVESTIGATION REPORT (IP) BEFORE TREATMENT

S. No	IP No.	Name	Age	Sex	TC	DC			ESR		AEC Abs. Eosio count	HB %	Biochemical Analysis			Urine Analysis			Motion Test		Radiological Results
						P	L	E	½ hr	1 hr			Sug Mg	Cho. Mg	Ure Mg	Alb	Sug.	Dep	Ova	Cyst	
1	1508	Umamaheswari	37	F	9200	58	36	6	40	60	450	11.5	109	210	23	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
2.	1657	Veeraraghavan	46	M	8800	57	35	8	50	105	480	11	84	181	22	Nil	Nil	Nil	Nil	Nil	Rt Max.sinusitis
3.	1678	Danush	55	M	9500	58	34	8	30	60	400	10.5	117	171	20	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
4.	1868	Chellammal	50	F	9650	60	34	6	30	60	450	11.5	127	163	21	Nil	Nil	Nil	Nil	Nil	Rt Max.sinusitis
5.	1921	Durgadevi	50	F	9200	60	32	8	50	103	475	12	99	153	22	Nil	Nil	Nil	Nil	Nil	Rt Max.sinusitis
6.	1952	Yasoda	40	F	9400	56	30	14	12	20	480	10.5	120	170	20	Nil	Nil	Nil	Nil	Nil	Rt Max.sinusitis
7.	1971	Lakshmi	55	F	9200	59	35	6	40	84	400	9	132	188	25	Nil	Nil	FEC	Nil	Nil	BL Max.sinusitis
8.	2024	Vijaya	37	F	10200	60	34	6	11	20	425	10.5	99	176	24	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
9.	2044	Prabakaran	37	M	10100	62	30	8	24	40	425	12.5	90	173	22	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
10.	2056	Durairaj	53	M	9500	60	32	8	24	40	400	13.5	102	162	29	Nil	Nil	Nil	Nil	Nil	BL Max.fro.sin
11.	2158	Pappathi	56	F	10200	60	34	6	15	30	485	10	120	181	25	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
12.	2195	Padmavathi	34	F	10700	62	30	8	44	80	490	10	108	190	21	Nil	Nil	Nil	Nil	Nil	Min BL.Max.sin
13	2214	Banumathi	47	F	10000	62	34	4	20	40	425	13	130	184	22	Nil	+	Nil	Nil	Nil	BL Max.sinusitis
14	2357	Danam	39	F	9800	53	40	7	44	80	500	10	61	176	22	Nil	Nil	Nil	Nil	Nil	Pan sinusitis
15	2374	Saranya	35	F	9700	52	40	8	8	19	500	11	104	192	24	Nil	Nil	FPC	Nil	Nil	BL Max.sinusitis
16	2388	Ezhilrasi	45	F	9500	56	40	6	24	40	495	10	110	182	20	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
17	2403	Shanthi nayagam	43	F	9500	62	32	6	20	40	495	10	125	172	23	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
18	2510	Shanthi	41	F	9400	56	35	9	50	100	485	10.5	75	181	23	Nil	Nil	Nil	Nil	Nil	Mini BL.max.sin
19	2438	Rajalakshmi	35	F	9800	54	40	6	24	40	480	12	107	170	23	Nil	Nil	Nil	Nil	Nil	BL Max.sinusitis
20	2570	Palani	40	M	9500	59	36	5	30	60	575	11	80	210	24	Nil	Nil	Nil	Nil	Nil	Left Max.sinusitis

LABORATORY INVESTIGATION REPORT (IP) AFTER TREATMENT

S. No	IP No.	Name	Age	Sex	TC	DC			ESR		AEC	HB %	Biochemical Analysis			Urine Analysis			Motion Test		Radiol-ogical Results	Over all result
						P	L	E	½ hr	1 hr			Sugar Mg	Cho. Mg	Urea Mg	Alb	Sug	Dep	Ova	Cyst		
1	1508	Umamaheswari	37	F	9200	59	38	3	5	12	265	12	100	200	23	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
2.	1657	Veeraraghavan	46	M	8800	60	38	2	15	24	270	11.5	80	175	21	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
3.	1678	Danush	55	M	9500	57	40	3	14	28	258	10.5	117	170	20	Nil	Nil	Nil	Nil	Nil	Haz dec	Moderate
4.	1868	Chellammal	50	F	9800	62	34	4	12	20	296	10.5	120	163	21	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
5.	1921	Durgadevi	50	F	9000	52	43	1	7	16	265	12.5	101	165	20	Nil	Nil	Nil	Nil	Nil	Haz dec	Moderate
6.	1952	Yasoda	40	F	9450	55	40	5	10	21	270	11.5	86	170	20	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
7.	1971	Lakshmi	55	F	10200	62	35	3	8	16	269	13.5	86	185	21	Nil	Nil	Nil	Nil	Nil	Haz dis app	Moderate
8.	2024	Vijaya	37	F	10200	58	40	2	14	26	274	10.5	91	176	22	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
9.	2044	Prabakaran	37	M	10100	63	34	3	11	25	275	12.5	94	173	23	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
10.	2056	Durairaj	53	M	9700	58	40	3	19	30	268	11	150	160	21	fpc	Nil	Nil	Nil	Nil	Haz dis app	Good
11.	2158	Pappathi	56	F	10200	61	37	2	12	18	263	11	120	180	22	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
12.	2195	Padmavathi	34	F	10900	59	39	2	9	15	271	10	100	170	20	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
13	2214	Banumathi	47	F	10000	63	33	4	6	13	256	11	120	180	21	Nil	+	Nil	Nil	Nil	Haz dis app	Good
14	2357	Danam	39	F	9800	58	40	2	4	10	275	11.5	59	168	23	Nil	Nil	Nil	Nil	Nil	Haz Pres	Mild
15	2374	Saranya	35	F	9700	60	37	3	3	10	231	10.5	140	174	20	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
16	2388	Ezhilrasi	45	F	9600	57	40	3	4	9	260	11	132	175	22	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
17	2403	Shanthinayagam	43	F	9600	61	36	3	6	14	258	11	40	180	22	Nil	Nil	Nil	Nil	Nil	Haz dec app	Good
18	2510	Shanthi	41	F	9500	62	36	2	2	6	262	12	85	165	21	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good
19	2438	Rajalakshmi	35	F	9800	60	38	2	2	5	259	13.5	120	210	24	Nil	Nil	Nil	Nil	Nil	Haz Pres	Mild
20	2570	Palani	40	M	9500	58	38	4	4	7	280	12	134	172	23	Nil	Nil	Nil	Nil	Nil	Haz dis app	Good

LABORATORY INVESTIGATION REPORT AFTER TREATMENT (O.P)

S.No	O.p.No	TC Cells/C umm	DC			ESR		Hb %	Bio Chemical Analysis			Urine			Motion		X-Ray findings
			P	L	E	½ hr	1 hr		Sugar(pp) mg	Cholesterol (mg)	Urea (mg)	Alb	Sug	Dep	Ova	cyst	Hazz Dec
1.	1551	8900	60	38	2	6	12	11	100	165	23	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
2.	3107	9900	60	37	3	4	7	11.5	105	160	4	Nil	Nil	Nil	Nil	Nil	Hazz Pres
3.	3172	9800	60	38	2	3	6	10	108	155	20	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
4.	3103	9800	59	38	3	5	8	10.5	110	160	23	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
5.	4625	10000	58	39	3	1	2	10.5	107	162	19	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
6.	4969	10100	63	35	2	5	9	11.5	109	170	21	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
7.	6672	9100	60	36	4	4	7	10	95	165	23	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
8.	6937	9300	60	38	2	3	6	11.5	85	168	22	Nil	Nil	Nil	Nil	Nil	Hazz Dec
9.	7442	10200	62	36	2	4	9	11	80	164	20	Nil	Nil	Nil	Nil	Nil	Hazz Dec
10.	7451	9900	58	39	3	1	2	12.5	93	170	24	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
11.	8296	10100	59	36	5	3	5	11	105	170	23	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
12.	8676	9900	60	38	2	4	7	12.5	105	165	21	Nil	Nil	Nil	Nil	Nil	Hazz Present
13.	8914	9400	59	37	4	3	5	11	95	156	23	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
14.	9465	10400	60	38	2	4	6	11	98	160	20	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
15.	9645	9800	60	38	2	3	7	11	90	175	21	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
16.	3155	9900	60	37	3	4	6	11	88	173	21	Nil	Nil	Nil	Nil	Nil	Hazz Dis app
17.	3867	10000	60	38	2	4	9	10.5	86	163	22	Nil	Nil	Nil	Nil	Nil	Hazz Dec
18.	4584	9800	62	35	3	3	6	11	90	160	21	Nil	Nil	Nil	Nil	Nil	Hazz Present
19.	3353	9700	60	36	4	4	9	11	92	156	23	Nil	Nil	Nil	Nil	Nil	Hazz Dec
20.	9466	9800	58	38	4	5	7	11	96	163	21	Nil	Nil	Nil	Nil	Nil	Hazz Present

LABORATORY INVESTIGATION REPORT BEFORE TREATMENT (O.P)

S.No	O.p.No	Name	Age /sex	TC Cu mm	DC			ESR		Hb gm	Bio Chemical Test			Urine			Motion Test		X-Ray findings
					P	L	E	½ hr	1hr		Sugar mg	Chole mg	Urea mg	Alb	Sug	Dep	Ova	Cyst	
1.	1551	Jeya	35/F	8700	52	44	4	14	29	10.5	110	163	25	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
2.	3107	Aysha	47/F	9800	62	33	5	15	29	11.5	100	168	25	Nil	Nil	Nil	Nil	Nil	BL Max Sinus
3.	317	Dhanammal	43/F	9800	60	34	6	14	29	10	108	136	24	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
4.	3103	Sabeera	30/F	9200	54	40	6	20	38	10	98	158	23	Nil	Nil	Nil	Nil	Nil	Mild Max Sinus
5.	4625	Sampoornam	55/F	8800	52	40	8	10	22	8.5	135	170	28	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
6.	4969	Jeyakumar	33/M	10000	63	31	6	22	43	11	100	156	18	Nil	Nil	FEC	Nil	Nil	Mild haz max
7.	6672	Mohana	46/F	8400	52	42	6	10	21	9.5	88	170	18	Nil	Nil	FEC	Nil	Nil	Rt Max Sinus
8.	6937	Mukilan	27/M	9100	53	43	4	14	29	11	95	155	17	Nil	Nil	FEC	Nil	Nil	Rt Max Sinus
9.	7442	Shobana	24/F	10200	60	34	6	11	20	11	88	172	18	Nil	Nil	FEC	Nil	Nil	Rt Max Sinus
10.	7451	Koteswaran	44/F	9800	57	35	8	14	29	12	113	187	21	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
11.	8296	Jameela	19/F	10000	58	30	12	10	24	10.5	105	172	25	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
12.	8676	Anitha	25/F	9800	57	39	4	15	28	125	110	160	21	Nil	Nil	FEC	Nil	Nil	BL Max Sinus
13.	8914	Vijaya	37/F	9200	56	38	6	20	38	10	105	159	27	Nil	Nil	FEC	Nil	Nil	Mild Max Sinus
14.	9465	Ilavarasi	18/F	10400	62	33	5	10	16	10.5	110	168	23	Nil	Nil	-	Nil	Nil	Rt Max Sinus
15.	9645	Magaendiran	48/M	9800	55	39	6	22	43	11	115	156	23	Nil	Nil	FEC	Nil	Nil	Rt Max Sinus
16.	3155	Selvarani	39/F	9800	59	36	5	12	25	10.5	106	159	27	Nil	Nil	FEC	Nil	Nil	Rt Max Sinus
17.	3867	Thillaiyammal	37/F	10000	63	31	6	20	42	10	84	177	25	Nil	Nil	FEC	Nil	Nil	Rt Maxi Sinus
18.	4584	Subramani	39/M	9800	60	34	6	10	18	11	88	182	25	Nil	Nil	FEC	Nil	Nil	BL Max Fro Eth
19.	5353	Pappathi	40/F	8700	53	40	7	30	64	9.5	87	165	21	Nil	Nil	FEC	Nil	Nil	BL.Max.Sin
20.	9466	Bhavani	14/F	9800	56	34	10	21	42	10	100	158	21	Nil	Nil	FEC	Nil	Nil	BL Max Sinus

T.C. - Total Count
D.C - Differential Count
P - Polymorph
L - Lymphocyte
E - Eosionophils
ESR - Erythrocyte Sedmentation Rate
Hb - Haemoglobin

S. Cho - Serum Cholesterol
Alb - Albumin
Sug - Sugar
Dep - Deposit
BL Max Sinusitis- Bilateral maxillary sinusitis
Rt. Max.Sin - Right maxillary sinusitis
Lt Max Sinusitis- Left Maxillary sinusitis

AEC - Absolute Eosinophil count

TREATMENT & RESULT OF CASES

S.No	IP No	Name of the Patient	Age	Sex	Occupation	Date of admission	Duration of disease	Treatment with trial drug with dose	Date of Discharge	Total Duration of days	Results
1.	1508/3868	Uma Maheshwari	37	F	House Wife	03.10.07	2 Years	a. Sira Noi Choornam-1gm BD with hot water b. Peenasa Thylam -3ml -3drops each nostril	29.11.07	45 Days	Good
2.	1657/9851	Veera raghavan	46	M	Agri-coolie	19.10.07	2 Years		22.11.07	33 Days	Good
3.	1678/833	Dhanush	55	M	Hostel Watchman	23.10.07	1 Year		09.12.07	46 Days	Moderate
4.	1868/9669	Chellamma	50	F	Agri-coolie	26.11.07	1 Years		24.12.07	29 Days	Good
5.	1921/3474	Dhurgadevi	50	F	House Wife	03.12.07	6 Months		02.01.08	31 Days	Moderate
6.	1952/3024	Yasodha	40	F	House Wife	04.12.07	2 Years		11.01.07	38 Days	Good
7.	1971/3964	Lakshmi	65	F	House-maid	10.12.07	2 Years		10.01.08	31 Days	Moderate
8.	2024/8799	Vijaya	37	F	Veg-Merchant	17.12.07	2 Years		18.01.08	32 Days	Good
9.	2044/9727	Prabakaran	37	M	Business	21.12.07	6 Months		24.01.08	34 Days	Good
10.	2056/920	Durai raj	53	M	Agri-coolie	24.12.07	2 Years		08.02.08	46 Days	Good
11.	2088/3389	Pappathi	56	F	House Wife	21.01.08	1 Year		25.02.08	35 Days	Good
12.	2195/9643	Padmavathy	34	F	Flower-Seller	21.01.08	2 Weeks		26.02.08	36 Days	Good
13.	2214/242	Bhanumathi	47	F	House Wife	23.01.08	6 Months		28.02.08	36 Days	Good
14.	2359/7149	Danam	39	F	House-maid	11.02.08	1 Year		12.03.08	39 Days	Mild
15.	2374/7757	Saranya	35	F	House Wife	12.02.08	6 Months		26.03.08	43 Days	Good
16.	2388/8293	Ezhilarasi	45	F	Fish Vendor	13.02.08	1 Year		20.03.08	36 Days	Good
17.	2403/8861	Shanthi Velnayagam	43	F	House Wife	15.02.08	3 Years		23.03.08	38 Days	Good
18.	2510/3951	Shanthi	41	F	Agri-coolie	17.02.08	2 Years		28.03.08	32 Days	Good
19.	2438/2134	Rajalakshmi	35	F	House Wife	28.02.08	2 Years		31.03.08	33 Days	Mild
20.	2570/7790	Palani	40	M	Office Work	10.03.08	3 Years		12.04.08	35 Days	Good