A STUDY ON

PATCHAVATHAM

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CERTIFICATE

I certify that I have gone through the dissertation submitted by **Dr.K. SIVARANJANI**,(Reg no:32072009) student of final M.D(S) Branch – III Post Graduate Department of Sirappu Maruthuvam, Govt. Siddha Medical College & Hospital, Palayamkottai, and dissertation work has been carried out by the individual only. This dissertation does not represent or reproduce the dissertation submitted and approved earlier.

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INTRODUCTION

Since the dawn of man the disease and their ailments are the most important things which make him to suffer a lot. Health doesn't mean state of well being but also the well being of mind and body.

Siddha medicine is from south India and it is the Tamil traditional medicine. Siddha system of medicine was belived to be handed over to siddhars by the Hindu god Lord Siva and goddess Parvathi.

Siddhars are 18 in number and they are be lived to be ancient supernatural spiritual saints of India. Among them Agasthiyar was the first siddhars and was belived to be "Father of Siddha medicine".

Siddhars developed methods of complete medication that strengthen the physical body and there by their souls. Siddhars wrote their knowledge in palm leaf manuscripts. From these manuscripts the Siddha system of medicine developed into a part of **Indian Medical Science.**

Siddha medicine means **MEDICINE THAT IS PERFECT.** It revitalizes and rejuvenates the organs that cause disease.

The basic concept of Siddha medicine is the predominance of Vatham in childhood, Pitham in adult, Kabham in old age.

According to Siddha medicine various psychological and physiological functions of the body are attributed to the combination of seven elements.

1. Saram (Plasma): Responsible for growth, development and nourishment.
2. Senneer (Blood): Responsible for nourishing muscles, imparting color, and improving intellect
3. Ooun (muscle): Responsible for the shape of the body.
4. Kozhuppu (fatty tissue): Responsible for oil balance and lubricating joints.

5. Elumbu(Bone): Responsible for body structure, posture and movements.
6. Moolai(Brain): Responsible for strength
7. Sukilam(Semen): Responsible for reproduction.

It is assumed that when the normal equilibrium of the three humors (vatha, pitha, kabha) is disturbed by diet, climate, physical activities, environment and stress, disease is caused.

The drugs used by the siddhars is classified into three groups, Thavara(Herbal products), Thathu(Inorganic substances), Sangamam(Animal products).

According to the mode of application siddha medicine is categorized into two classes

INTERNAL MEDICINE: used through oral route and it is further categorized into 32 types.

EXTERNAL MEDICINE: includes certain forms of drugs and also certain applications like nasal, eye, ear drops and procedures like leech application etc.

It is also classified into other three types called 1) Kaaram 2)Suttikai 3) Aruvai.

The treatment in siddha medicine is aimed at keeping the three humors in equilibrium and maintenance of seven elements. Proper diet, medicine and a disciplined regimen of life are advised for healthy living and to restore equilibrium.

The author of this dissertation work has selected PATCHA VATHAM explained under the vatha diseases by Yoogi Munivar in Yoogi Vaithiya Chinthamani Perunool-800. It is clinical entity comparable to HEMIPLEGIA in modern medicine. The incidence of this disease is now a days increasing due to the lack of disciplined regimen in lifestyle and also increasing physical stress.

The author choice of drugs for the clinical study are:

VALLADHAGICHENDURAM-INTERNALLY {ref from: Namm Naatu Vaithiyam}

MASHATHY THYLAM- EXTERNALLY{ ref from: Anubhava Vaithiya Deva Ragasiyam}

The drugs were prepared by me the author and clinically trialed in 20 selected patients of "PATCHAVATHAM" in the inpatient ward of **Post Graduate Sirappu Maruthuvam At Govt Siddha Medical College Hospital Palayamkottai.**

Another 20 cases were also treated with trial drug in the outpatient ward and the clinical results and observations are submitted in this observation work.

AIM AND OBJECTIVE

“Nature is Man ad Man is Nature”

A close relationship is found to exist between the external world and the internal system of man. Man is greatly affected by the external environment, diet, unhealthy lifestyles, physical & psychological stresses which in turn affects the internal systems of body.

Annually millions of people worldwide suffer from stroke [PATCHA VATHAM] today and out of that 5.5 million die and another 5 million left permanently disabled.

The incidence of Patcha vatham has increased in fold due to diseases like diabetes mellitus, hypertension, syphilis, tumor, trauma, epilepsy, infections, and also by unhealthy life styles, diet etc.

Today Patcha vatham is the leading cause of adult disability and physical deformity. But the interesting fact about Patcha vatham is that it can be manager easily if diagnosed in early hours and medical attention is sought, the damage can be minimized and recovery can occur.

Siddha medicine is very much effective in treating the physical disability in Patcha vatham. So the author has conducted a clinical study on Patcha vatham for the welfare of human race.

The Internal drug “valladhagi chenduram” in which main constituents are ‘serankottai’[semecarpus anacardium], and ‘Lingam’ [cinnabar], are very potent and proven drugs for the treating the diseases of loco motor system.

Also the constituents of the external drug “Mashathy thylam” ‘ulunthu’ [VIGNA MUNGO], ‘aamanakku ver’ [RICINUS COMMUNIS], ‘sitramutti’

[Pavonia], and sesame oil have potent Antivadha property. The external medicine is given in the form of thylam.

The clinical features of Patcha vatham was comparable to stroke or hemiplegia in modern medicine. The clinical study was conducted in 20 inpatients and 20 out patients in **post graduate sirappu maruthuvam** wards in **Govt Siddha medical college palayamkottai**. The patients were advised to come for regular follow up to study the disease.

The main aim of the study on Patcha vatham was

i. To collect the evidences from the ancient literatures
ii. To control the predisposing factors
iii. To study the efficacy of trial drugs
iv. To correlate the incidence of Patcha vatham with reference to sex, age, socio economic status, family history, habits, trauma, thinaigal and paruva kaalangal
v. To study how the disease alters the normal systems of the body in respect to mukkutrangal, udal kattugal, kanma inthiriyangal and manomaya kosam etc and how it is diagnosed by envagai thervugal, neerkuri and neikuri etc.
vi. To know the extent of correlation of etiology, classification, symptomology, diagnostic methods and treatment in line with allopathic system of medicine.
vii. To conduct clinical trial on patients with Valladhagi chenduram and Mashathy thylam in treating Patcha vatham
viii. To emphasize the role of ‘Thokkanam’ using medicated oils in rehabilitating the patient.
ix. To study the relationship of food habits in altering the disease process and the role of ‘pathiyam’
x. To use the available modern parameters in investigation side to confirm and to know the prognosis.

xi. To conduct the biochemical analysis and study about the chemical contents of the drugs.

xii. To study about the pharmacological action of the trial drug in experimental animals.

xiii. And also to know the clinical toxicity or adverse effects of the trial drug if any.

REVIEW OF SIDDHA LITERATURE

The siddha system of medicine deals each and every corner of science, when viewed in its proper perspective, the body is nothing less than an evolutionary wonder, an unbelievably complex instrument capable of supporting limitless possibilities for human life.

This marvel nature can be studied from many points view, the conceptual model that "Siddha" uses to understand the principles of nature functioning is called "Pancha Butham" or the "Theory of Five Elements". This theory serves as the foundation for all of Siddha's diagnostic and treatment modalities and has allowed physicians for millions of years who successfully detect and treat imbalances any where in human life.

The Ancient Siddha literatures classify the diseases into the number of 4448. The classification is based on the "Three Dosha Theory". In such a way Eighty types vaadha diseases are classified and "Patcha vatham" is one of them. Before reviewing the specific science and symptoms of "Patcha vatham" the details of vaadham are important and basic.

NATURAL PROPERTIES OF VAADHAM

1. Giving briskness
2. Expiration and Inspiration
3. Functioning the mind, thoughts and body
4. Regulation of the "Fourteen Physiological Reflexes", (Vegam)
5. Functioning the "Seven Udarkattukal" uniformly
6. Protection and strengthening of the Five sensory organs. (Iymporigal)

FUNCTIONS OF VAADHAM :

1. Body ache
2. Pricking pain

3. Tearing pain
4. Nerve weakness
5. Shivering
6. Mental distress
7. Dryness
8. Movements
9. Weakness
10. Joints pain
11. Traumatic pain
12. Dislocation of joints
13. Weakness of organs
14. Pilo-erection
15. Paralysis of limbs
16. Polydypsia
17. Severe pain in calf and thigh muscles
18. Bony pricking pain
19. Anuria and constipation
20. Unable to do flexion and extension of the limbs.
21. All tastes to be like astringent.
22. Excess salivation and
23. Darkness of skin, eyes and urine.

QUALITIES OF VAADHAM

Own Qualities

1. Kadinam - rough
2. Varatchi - dry
3. Elesu - light
4. Kulirchi - cold
5. Asaidhal - unstable
6. Anuththuvam - subtle

Opposite Qualities

1.	Mirudhu	-	soft
2.	Pasumai	-	unctuous
3.	Paluvu	-	heavy
4.	Akkini	-	hot
5.	Sthiram	-	stable
6.	Katti	-	solid

RELATION WITH TASTE

The tastes, which increase 'Vaadham' are Sour and Astringent.

"புளிதுவர் விஞ்சுங்கறி யாற்பூரிக் கும்வாதம்
ஒளியுவர் கைப்பேறில் பித்துசீறும் - கிளிமொழியே
கார்ப்பினிப்பு விஞ்சிற்கபம் விஞ்சுஞ் சட்டிரதச்
சேரப் புணர் நோயணுகாதே"

- கண்ணுசாமியம்

The Tastes, which neutralizes Vaadham, are Sweet, Sour and Salt.

"வாத மேலிட்டால் மதுரம் புளியுப்பு
சேதமுறச் செய்யுஞ் சிறையம் - ஓதக்கேள்
காரந் துவர் கசப்பு காட்டுஞ் சுவையெல்லாம்
சாரப் பரிகாரஞ் சாற்று"

- கண்ணுசாமியம்

PATCHA VAATHAM

SYNONYM: PAARISA VAYU AND PATCHA VAYU

The disease is named according to its clinical manifestation. PATCHAM means half, since it cause paralysis of one half of the body it is called as PATCHA VAATHAM.

Patcha vatham is synonymous with Patcha vatham in most of the siddha literatures except yugi vaidhiya chinthamani perunool -800.

Patcha vatham is commonly the result of cerebro vascular accident. Besides patcha vatham other vathas like arputha vatham {«üÒ¾ Å¡¾õ}, aekaantha vatham {²¸¡ó¾ Å¡¾õ} , arthaanka vatham {«÷¾¡í¸ Å¡¾õ} are also due to lesion in corticospinal tract lesion at various location.

Definition:

It is defined as a vatha disease characterized by inability to use right upper and lower limb or left upper and lower limbs

1) paraesthesiae
2) deviation of lower half of the face
3) dribbling of saliva
4) symptoms of decreased pitham like anxiety etc.

UDAL KOORUGAL AND UDAL THATHUVAM ASPECT:

Patcha vatham causes loss of voluntary action of one half of the body {defect in loss of kanma inthiriya function}. This is also called as loss of visai. VISAI literally means activity carried out by voluntary will

«¼ì¸¦ÁýÈ «¼ì¸¦ÁøÄ¡õ Ä¡¼Đû§Ç
¬ÚÀòÐ ¬È¡Úõ ´ÎíÌÁí§¸
«¼ì¸¦ÁýÈ ¬òÁ¡Å¢ý þÕôÒÁí§¸
«õÀÃò¾¢ý ¿¢¨ÄÂí§¸ Á¾¢ ¾¡Éí§¸
«¼ì¸¦ÁýÈ Ýðº Å¢¨º þÕôÒÁí§¸
«ñ¼ ºÃ¡ºÃ¾¢Û¨¼Â þÕôÒÁí§¸

-Ä¡¼ Ýò¾¢Ãõ À¡¼ø 683.

In our Siddha Tamil literatures, siddhars attribute the control voluntary actions to the **LAADAM OR BRAIN SUBSTANCES** where the 96 thathuvas are channelised. These verse tell the important control of all actions including voluntary movements as **visai.**

¸¼ó¾¦¾¡Õ ¾¡ÉÁ¼¡ Ä¡¼ ¨ÁÂõ
¸¾¢÷ Á¾¢Â¡õ À¢Ã¸¡º Åð¼òÐû§Ç
«¼÷ó¾¢ð¼ ¾òÐÅí¸û ´ÎíÌõ Å£Î
¬È¡É Á¡Ç¢¨¸Ìì §ÁÄ¡õ Å£Î
À¼÷ó¾¢ð¼ ¿¡¾Å¢óÐì ¸¡¾¢ Å£Î
ÀÃ¡ÀÃÁ¡õ À¢ÃÁ¡ñ¼Á¡É Å£Î
Í¼¡¢ ÃÅ¢Á¾¢ ÝúóÐ ÐÄíÌõ Å£Î

-Ä¡¼ Ýò¾¢Ãõ À¡¼ø 47

ÐÄíÌ¸¢ýÈ §Å¾¦ÁÛó Ð¾¢ôÀ¢ý Å£Î
¾ÁÃÈ¢Å¢ø ¿¡ø ÍÅÕ ±Øó¾ Å£Î
ÁÄíÌ¸¢ýÈ ÁÕû Å£Î ´Â¢ý Å£Î
Å¡Äºó¾¢Ãô À¢Ã¸¡º ¿¼É Å£Î
þÄíÌ Á½¢ Áïºõ ¿¢ýÈ¡Îõ Å£Î
±ñÏ Ó¨É ¾ðÊ ¿¢ýÈ þÃò¾¢É Å£Î
¸ÄíÌ¸¢ýÈ À¢ÃÁòÐì Ì¨¼Â Å£Î
¸¨Ã ¸¡½¡ µí¸¡Ã ÓüÈ Å£§¼

-Ä¡¼ Ýò¾¢Ãõ À¡¼ø 48

This laadam or brain substance is also the centre which controls the 96

thathuvas including the six nervous plexuses [6 aathaarangal], nadham&vindhu, intelligence, vatha, pitha, kabam and metabolism. It has the capacity of having innumerable qualities.

Siddhars also say that LAADAM has four parts

1) cerebrum **2) cerebellum**

3) pons **4) medulla oblongata**

Å£¼¡É þò¾Ä§Á Ó¡¢ÔÁ¡É¡ø
Å¢¨ºÂ¢É¡ø ¬Î¸¢ýÈ ¦À¡¡¢¸¦ÇøÄ¡õ
ã§¼¡§¼ Â¢üÚ Å¢Øõ Àïº ¸÷ò¾¡
ÓÄÁ¡ö ¿¢ýÈ ¦¾¡Õ À¢Ã¡½ Å¡Ô
¬Î¸¢ýÈ À¡¨Å ºÃ¼üÈ¡ô §À¡§Ä
«¨ºó¾¡Îõ ¦À¡¡¢¸¦ÇøÄ¡õ «¼í¸¢ô §À¡îÍ
¿¡Ê ¿¢ýÈ ÀÃ¦ÅÇ¢Ôõ þÕñÎ §À¡îÍ
¿¡¾É¡÷ À¾¢Â¢Æó¾Ð §À¡Ä¡î§º.
-Ä¡¼ Ý¾¢Ãõ 49

Here it is also said that it is the centre which maintains the biological clock and it is the place where **idakalai** (which controls the right half of the body originating from the left side of the laadam), **pinkalai** (which controls the left half of the body originating from the right side of the laadam), and **suzhumunai** (which integrates both idakalai and pingalai) originates from the moolatharam and terminates into the brain substance of the laadam which is called **kathir kulai** in siddha texts.

The nervous control of the voluntary movements (also called **prana**)by the laadam is explained by the loss of this control by injuries to this laadam.

¾¡¦ÉýÈ ¿ÃõÀ¦¾øÄ¡õ þ¨ºÅ¡¸ ÐñÎ§À¡§Ä
§¾¸Ðû§Ç «ýÉÁÐ ¯ýÀ¾÷ìÌõ ¾¸¢À¾÷ìÌõ

þÃò¾¿£§Ã¡ð¼õ þÕôÀ¦¾ýÈ¡ø ¿£§Ã¡ð¼õ
þÃò¾ò§¾¡§¼ ¿£Õ Ò¸ú ¾¡¨Ã ±ýÈ¡ø ÐÅ¡ÃÍ¸¡Ïõ
¸ò¾¡¢ §¸¡ø Á¡Èø §À¡ø ´ýÚì¦¸¡ý§È
´ýÈ¡É ±ó¾¢Ãò¨¾ ¬ú¸¢½üÈ¢ø ¸ÂÈ¢ð¼¡ô §À¡§Ä
þØòÐ¼¨Ä À¢Êò¾¢ÕìÌõ ¿ÃõÀ¡ø ¾¡Ûõ.
¾¡¦ÉýÈ À¢Ã¡½ Å¡Ô Ä¡¼ò¾¢ø §¾¡ýÈ¢
º¢ò¾¢¨Ã ¿¡Ê ±ØóÐ ÝÄò§¾¡§¼ Óì§¸¡½ò¾¢ø
¯õ¦ÁýÚ ¯Â¢Ã¡ö ¦ºýÚ ¿¡À¢ ºì¸Ãò¾¢ø
þõ¦ÁýÈí§¸ þ¼¸¨Ä À¢í¸¨Ä¸Ç¢§Ä þ¼Ã¡ö µÊ
¸À¡Äõ íüÈ¢ þÕ¿¡º¢Â¡¸¢ ãî§º¡§¼ ¿¢üÌõ.

§¾¨ÃÂ÷ ¿ÃõÒ Ýò¾¢Ãõ 150

CONTROL BY NARAMBU :

In Theraiyar Narambhu Soothiram -150, ten narambugal viz; idagalai,pingalai,suzhumunai,siguvai, purudan, ganthari, athi, alampudai, sanguni, gugu are held responsible all the activities of the body both voluntary and involuntary, besides the specific nervous control described for the upper and lower limbs separately from the brain.

The above verse describes the involuntary activities like passage of food in the gastro intestinal tract, and circulation of blood are controlled through nerves by the brain.

The above verse describes the higher control of upper limbs by the brain through the nerves.

¯ûÇí¨¸ ¾ýÉ¢ø ¿¢ýÚ ¦¿¡Ú¦¸øÄ¡õ
º¢Ú¿ÃõÒ ´ý¦ÈØóÐ º¢Ãº¢§É¡Î
¦ºýÉ¢ ÅÆ¢Â¡¸ ¦ºýÚ ¸À¡Äò§¾¡§¼
þ¨½À¢¡¢Â¡ ¸¨Ä §À¡§Ä ±øÖ ¾¡Ûõ
±ØóÐ º¢ÃÍ«Ç× íüÈ¢ ¿¢üÌõ
«îº¢øÄ¢ð¼ ÀÊÂÐ §À¡ø À¢ýÉø ¦¸¡ñÎ

þÃ× À¸ø Å¢¨ÃÅ¡¸ ±ØóÐ ¦ºýÚ
Á¡ò¾¢¨ÃÂ¡ö «ó¿ÃõÒ «ºÅ¡Â¡Ê
Áñ¼Äí¸û ãýÚìÌõ ¯È×Á¡î§º
- §¾¨ÃÂ÷ ¿ÃõÒ Ýò¾¢Ãõ 150

IMPORTANCE OF VARMAM:

Several varmam(injuries) can cause patcha vaatham like vatha noigal. One among them is injury to NETRI VARMAM which can cause hemiplegia like symptoms. This can be explained by the following verse:

¦ºi¡ýÉ¦¾¡Õ ¸¾Ä¢ ÅÉõ þ¨¼ÉÎÅ¢ø
¦ºó¾Éø ¾£ ¦¿üÈ¢ Å÷Áõ ãÈ¢ó¾¾¡É¡ø
À¢ý§É ´Õ ¨¸ ¸¡Ä¢ºí¸¢ À¢Äì¦¸¡ð¼¡Ð
À¢ÄÁ¡É ¾£ÂÆø §À¡ø ÅýÉ¢ ¸¡óÐõ
À¢ýÉ§Á §ÁÉ¢§ÂøÄ¡õ ¸¡ó¾Öñ¼¡õ
À¢º¸¢§Â ÒÄõÒ¦Á¼¡ À¾¢¦Éð¼¡õ ¿¡û
«ý§ÉÃí ¸¡ó¾ø Å¢ð¼Â¾¢ ×ñ¼¡õ
ÁÄºÄÓõ «¨¼òÐ ÅÂ¢Ú ¦À¡ÕÓó¾¡§É
-Ä¡¼ Ýò¾¢Ãõ 359

This explains partial loss of power of one upper and lower limb eighteenth day after injury to the NETRI VARMAM.

Therapeutic use of varmam in patcha vatham lies in thadavu muraigal specific to patcha vatham and use of adangal especially in treating associated facial weakness.

NOI VARUM VAZHI [etiology]:

±ýÉ§Å Å¡¾ó¾¡ý ±ñÀ¾¡Ìõ
þ¸ò¾¢§Ä ÁÉ¢¾÷¸Ùì ¦¸öÔõÁ¡Ú
À¢ýÉ§Å¦À¡Õû¾¨É§Â¦º¡Ãï¦ºöÐ
¦À¡¢§Â¡÷¸û À¢ÃÁ½¨Ã Ð¡¼½¢òÐ
ÅýÉ§¾Åî ¦º¡ò¨¾ §º¡Ãï ¦ºöÐ
Á¡¾¡À¢¾¡ ÌÕ¨Å ÁÈó¾ §À÷ÌÌõ
¸ýÉ§Å §Å¾ò¨¾ ¿¢ó¨¾ ¦ºö¾¡ø
¸¡Âò¾¢ü ¸Äó¾¢Î§Á Å¡¾ó ¾¡§É
- ä¸¢ ¨Åò¾¢Â º¢ó¾¡Á½¢

Yugi Munivar elaborately describes various causes for all vatha noigal. Although the text does not mention causes separately for each type, collectively it deals with psychological, karmic, intrinsic, and extrinsic factors of etiology for all vatha noigal. With this and other siddha texts we can say the cause of the disease as follows:

I. Karmic and psychological causes
II. Wrong diets and acts
III. Due to injuries

The karmic and psychological causes include:

1) adulterating gold
2) kidding the elders and priests
3) looting the property of temples
4) not helping the parents and gurus in their old age
5) denigrating the devine text.

These acts generates psychological stress and thereby vitiates the vatham.

¾¡¦ÉýÈ ¸ºô§À¡Î ÐÅ÷ôÒ ¯¨ÈôÒ

º¾¸Á¡ö Á¢ïÍ¸¢Ûõ º¨Áò¾ «ýÉõ

¬¦ÉýÈ ¬È¢ÉÐ Òº¢ò¾Ä¡Öõ

¬¸¡Âò §¾ÈÄÐ ÌÊò¾Ä¡Öõ

À¡¦ÉýÈ À¸ÖÈì¸õ þÃ¡Å¢Æ¢ôÒ

ÀðÊÉ¢§Â Á¢¸×Ú¾ø À¡Ãõ ÍÁò¾ø

§¾¦ÉýÈ¦Á¡Æ¢Â¡÷ §Áü º¢ó¨¾ÔÚ¾ø

º£ì¸¢ÃÁ¡ö Å¡¾ÁÐ ¦ºÉ¢ìÌõ ¾¡§É.

- ä¸¢ ¨Åò¾¢Â º¢ó¾¡Á½¢

The other intrinsic cause of wrong diets and acts include:

1) consuming foods with bitter, astringent and pungent taste.
2) Taking foods that is prepared several days ago
3) Drinking rain water
4) Sleeping during day and insomnia at night
5) Not having proper diet
6) carrying heavy weight things for long times
7) having excessive lust.

Etiology due to injuries:

Å¡¾À¢½¢ §¾¸ÁÐ §Á¡Ðõ Å¢¾Á¡ÉÐ ÅÕò¾¢ì§¸û þò¾¢¨ÃÂ¢ø

ÅÇÁ¡ö ¸ºôÒ ÒÇ¢ôÒ ÐÅ÷ôÀ¾¢¸õ ¯ñ½Ä¡ø ÁÐì¸û ÌÊôÀ¾¡Öõ

§À¾ÓÈ§Å À¨ÆÂ «ýÉÁÐ ¯ñ½Ä¡ø À¸ø ¯ÈíÌÅ¾¢É¡ø

¦À¡ÕóÐõ þÃÅÐ ¾ýÉ¢§Ä ¯Èì¸õ ´Æ¢Å¾¡ø ÀðÊÉ¢ þÕôÀ¾¡ø

Á¡ÐÌ¸§Ç¡Î «¾¢¸Á¡ö Å¢ÕõÀÄ¡ø ÁÄƒÄõ «¼ìÌÅ¾¢É¡ø

Á¡ýÒÅ¢Â¢ø «¾¢¸¦Ä¸¡¢ ¿¨¼ ´Ê× ÓÈ¢× ¿ÃõÒ À¢ýÉÄ¡Öõ

µÐ ƒÄõ Á¡È¢ Á¡È¢§Â ÌÇ¢ì¸Ä¡ø °È½¢Â¢ø §ºÚ ¿£Ã¡ø

¯ÈÅ¡É ÀÉ¢ ¸¡üÚ «¾¢¸õ Å¢ÕõÀÄ¡ø ¯ðÊÉõ ¦¸¡ûÅ¾¢É¡ø

¸¡ÂÁÐ ¯¨ÄÅ¾¡ø µÂ¡¾ §Å¨ÄÂ¡ø ¸É ÍÁÎ ±ÎôÀ¾¡Öõ

¸¡¢Â À¨É¸û ²ÈÄ¡ø ¸¡¨Ä ¦ÅÂ¢ø ¦¸¡ûÇÄ¡ø ¸¡Ã×½Å¢É¡Öõ

- Å¡¾ §¿¡ö ¿¢¾¡Éõ 800

Trauma to the head can cause patcha vaatham and other similar disease like monoplegia or hemiparesis. One such injury is caused when **netri varmam** gets injured.

Vatha noi nithanam-800 describes the following causes besides the above mentioned. These include

1) consuming sour foods or alchol
2) suppressing the urge for urination and defaecation
3) excessive walking
4) trauma
5) taking bath in different waters
6) residing in cool windy areas
7) excessive hard work
8) climbing palm tree
9) having morning sun bath.

PATHOGENESIS:

In thirumoolar vaithiya saram 635 MANTHAM is said to be the main cause for the development of vatha noigal

MANTHAM results from excessive eating and eating foods rich in fats, such as non vegetarian diet item like flesh.

According to thirumoolar consuming excessive food and fatty non vegetarian diet leads to mantham and this causes vatha diseases. This is explained as follows:

ÅÌò¾ Ó¨ÈÀÀÎ Áó¾ò¾¡ø Å¡ÔÅ¡õ
Á¢Ìò¾¿ø Å¡ÔÅ¡ö Å¢¨Çó¾¢Îõ §¿¡¦ÂøÄ¡õ
ÀÌò¾¢¨Å þÃñ¼¡ø À¡ÃîÍÃÓÚõ
Ó¸ó¾¢¨Å ÓýÈ¡ø Óò§¾¡„õ ¸¡Ï§Á

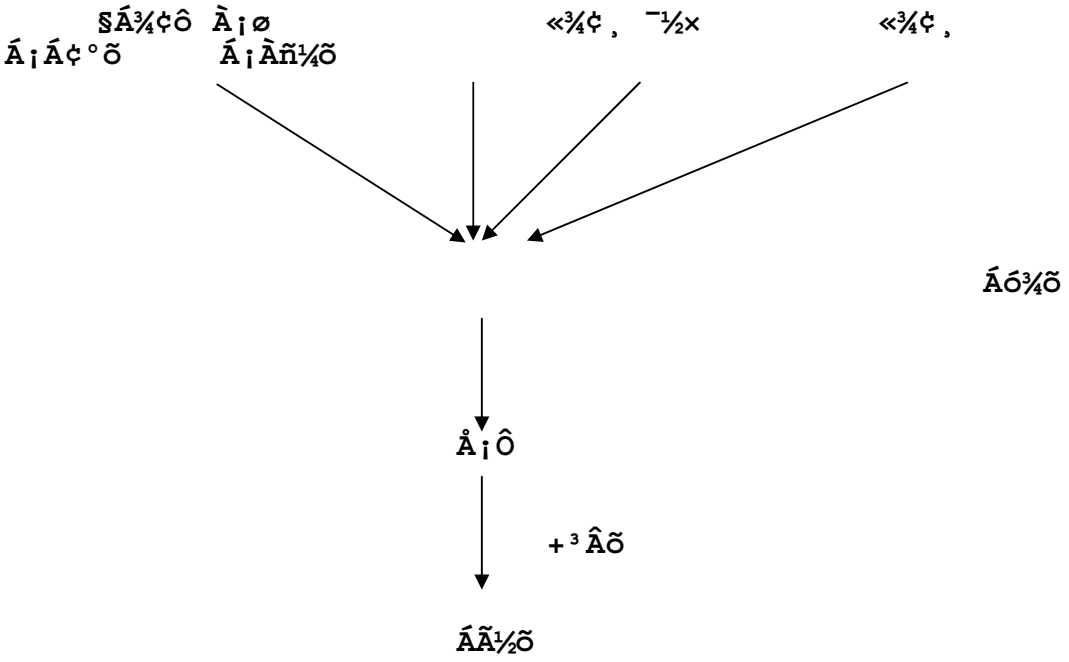
¸¡Ï§Á Áó¾õ ¸ÅÇ¢ÌÎõ Áó¾ò¾¡ø

¸¡Ï§Á Áó¾õ ¸ÎÁ¡Á¢ºõ Á£Èø
¸¡Ï§Á Áó¾õ ¸Äó¾Á¡ô Àñ¼ò¾¡ø
¸¡Ï§Á Áó¾õ ¸Î§Á¾¢ô À¡Öì§¸

§ÁÅ¢Â «ýÉò¾¡ø Å¢Çí¸¢ÂÐ þîº¼õ
À¡Å¢§Â ¦¸¡ýÚ ÀÆ¢ÔÚõ «ýÉò¾¡ý
¬Å¢ø Á¢¾ôÀ¢ø ³ÔüÚ §¿¡Â¡Ìõ
º¡Å¢ø þ¨Å§ÂøÄ¡õ ¸ñÎ ¦¸¡û «ýÉ§Á

- ¾¢ÕãÄ÷ ¨Åò¾¢Â º¡Ãõ 635

This pathogenesis of vatha noigal as said by thirumoolar clearly explains the high prevalence of death associated with dyslipidemia and atherosclerosis.



In vatha noi nithanam 800 it is clearly said that when vaayu pathologically enters naalam there will be upper and lower limb paralysis. This is explained as follows

§¸¡ÃÓÈ§Å Å¡Ô ¿¡Ç Á¾¢§Ä ÒìÌ§Á ¾¢Á¢÷ ¿ÃõÀ¢ø

¨¸ ¸¡ø Ó¼ì¸ÁÐ ¦ºöÔ§Á «Ð«È¢ ÜðÊ§Â ¿£ð¼ø «¸Öõ

- Å¡¾§¿¡ö ¿£¾¡Éõ

HUMORAL AND TRIDOSHA PATHOLOGY:

Pancha bootham manifested in the body as three life forces as vatham, pitham and kabam.

VATHAM

Vatham or vayu is not merely the wind but also that which causes motion, energy and sensation of every cell in the body. Structurally vatham is the combination of **vayu and aagayam boothams.**

The nervous function of this vatham is respiration, circulation of blood, excretion, carrying out movements, sensation of hearing, sight, taste etc. The air we breath goes into all the system and produces heat, fire and also carry out movements which is essential for locomotion. The whole is regulated evenly and this is called vatham.

In the body vatham is located in the anus, rectum, idakalai, spermatic cord, pelvic bone, skin, narambugal, hairs and muscles. It has ten types:

1) pranan nagan
2) abanan koorman
3) samanan kirukaran
4) viyanan thevathathan
5) uthanan thanajeyan

In patcha vatham primarily affected vayus are

a. pranan
b. viyanan
c. samanan
d. nagan
e. koorman

f. kirukaran

g. devathathan.

this can be explained as follows:

1) PRANAN:

It is the life force that is essential for the conduction of signals from the brain to all parts of the body. Pranan may also be compared to oxygen. In patcha vatham it is said to be affected because patcha vatham results only when there is lack of blood supply to brain. Lack of blood supply ultimately results in lack of oxygen supply which results in death of brain tissues.

2) VIYANAN:

Normal function is to bring about flexion and extension of both the limbs and also the movements of other body parts. So in patcha vatham viyanan is affected

3) SAMANAN:

Since samanan controls all other vayus it is naturally affected in patcha vatham.

4) NAGAN:

It is affected because there is piloerection.

5) KOORMAN:

It is affected since there is loss of power of one of upper and lower limbs.

6) KIRUKARAN:

It is affected because there is dribbling of saliva.

7) DEVATHATHAN:

It is affected because along with pitham its affection leads to anxiety, anger and some emotional instability

PITHAM

It is the life manifestation of **THEE** bootham in the body. It is the metabolic thermal life force of the body. It carries out digestion absorbtion, metabolism, colouration of blood etc. It is located in prana vayu,bladder, moolakini, heart, umbilical region, abdomen, stomach, sweat, saliva, blood, eyes and skin. It has five types,

1) Anal pitham
2) Prasagam
3) Ranjagam
4) Alosagam
5) Sathagam

In Patcha vatham the affected pitham are saathagam and prasagam

1) SAATHAGAM:

It is the pitham responsible for carrying out all activities as decided by our mind in response to our previous experiences. It is also the seat of intelligence and higher function such as behaviour. It is affected in patcha vatham since the patcha vatham patients cannot accomplish any act as their desire, and there is also emotional instability, they tend to cry easily.

2) PRASAGAM:

Due to affection of this pitham there is temperature variation between the normal and affected side.

KABAM

Kabam has **neer and earth** boothams. It is responsible for coordination and defense mechanism of the body. It is located in the suzhumunai, samana vayu, blood, semen, phlegm, and secretions of the body. It has 5 types. They are

1) Avalambagam
2) Kilethagam
3) Pothagam

4) Tharpagam

5) Santhigam

In patcha vatham the primarily affected kabam is kilethagam.

KILETHAGAM:

Due to the involvement of kilethagam there is dribbling of saliva from the mouth.

These deranged uyirthathu causes derangement of udal thathus viz:

1) Saaram
2) Seneer
3) Oon
4) Kozhupu
5) Enbu
6) Moozhai
7) Sukkilam/sronitham

SAARAM:

Due to affection of saaram there is

1) dribbling of saliva
2) inability to use the affected upper and lower limb

SENEER:

Due to senneer derangement there is weakness of the nerves.

OON:

Due to affection of this thathu, there is fatigability of the five porigal with wasting.

KOZHUPU:

Due to its affection of this thathu there is emaciation.

ENBU:

There is no immediate direct changes in enbu thathu in patcha vatham.

MOOZHAI:

There is no direct change in moozhai thathu in patcha vatham .

SUKKILAM/SURONITHAM:

Most of the patients have loss of libido.

MURKURIGUNANGAL (preliminary symptoms):

According to siddha maruthuvam text, increased vayu produces heaviness of the limbs, constipation, anger, increased pulse rate and loss of consciousness.

KANMAINTHIRIYANGAL:

கை (upper limb):

In hemiplegia there is loss of function of one side of upper limb.

கால் (lower limb):

In hemiplegia there is loss of function of one side of lower limb.

வாய் (mouth):

In hemiplegia there is loss of function of speech.

கோசங்கள்:

In hemiplegia there is derangement of manomayakosam and vinganam mayakosam.

KURIGUNANGAL(signs and symptoms) :

According to Yugi Vaithiya Chinthamani the clinical features are:

¾¡É¡É ¸¡ø §¸¡½¢ ¦ºò¾¡ü §À¡ø
¾¡ì¸¡É ¾¨Ã¾É¢§Ä ¿¼ì§¸¡½¡Ð
¸¡É¡É ¨¸¸¦Ç¡ýÚõ À¢Êì¦¸¡½¡Ð
¸ÉÁ¡É ¯½÷î º¢Â¢ýÈ¢ ¨¸¸û §º¡Õõ
Á¡É¡É ÁÂ¢÷ÜîÍó ¾¢Á¢÷×ñ¼¡Ìõ
Å¡ö¾¡Ûõ §¸¡½¢§Â ¾ñ½¢÷ Å¢Øõ
§ÀÉ¡É À¢ò¾õ §À¡ø «ÆýÚ ¸¡Ïõ
À¢¡¢× Àðº Å¡¾ò¾¢ý ¦ÀüÈ¢Â¡§Á.

- ä¸¢ ¨Åò¾¢Â º¢ó¾¡Á½¢

❖ Total loss of power of one side of limbs

- ❖ Deviation of leg when the patient tries to stand
- ❖ Difficulty to walk
- ❖ Patient can not hold things in his hand
- ❖ Loss of sensation and power in the upper limb
- ❖ There is piloerection and paraesthesia over the affected limbs
- ❖ There is deviation of mouth and dribbling of saliva
- ❖ There is anxiety and increased temperature.

In Yugi Vaithiya Chinthamani patcha vatham is differentiated from Patcha vatham by the presence of affection of lower half of the face in patcha vatham.

The term **Patcha vatham** is not dealt with in other texts. The same disease is dealt as **Patcha vatham** in other texts.

According to **VATHA NOI NITHANAM-800** the signs and symptoms are:

¯ÈÅ¡§Å Àì¸ Å¡¾ÁÐ ¦ºö¨¸§Â ´Õ Àì¸ÁÐ ¾É¢§Ä
µÊ Å¢Î§Á Å¡Ô Àì¸§Á ÔÚõ ¯üÈÚ Ì¼ø ÒÌóÐ
¾¢ÈÁ¡§Å ´Õ Àì¸ÁÐ Å¡¸§Å º¢Èó¾ ¨¸¸¡ø ¸ÉìÌõ
¾¢Á¢Ã¡¸§Å §¾¸ÁÐ ºýÉ¢ ÅÄ¢ ÌÇ¢Õõ ¿¡ÌÇÚõ
ÜÈ§Å ¾¢ð¼¦Á¡Î Àì¸ÁÂÕõ Ì¨ÈÂ¡Á§Ä ´Õ Àì¸ÁÐ ÍÎõ
Üñ¼ þÕ ¿¡º¢Â¨¼ìÌõ ÜÈ¡¸§Å ´Õ ¸ñÏº¢È¢¾¡Ìõ
¸ñ½¢ø ¸ÕÅ¢Æ¢ Á¨ÈÔã¼ø «ÂÕ§Á ¸¡Ð §¸Ç¡Ð §À¡Ì§Á
ÅÇÁ¡¸ ÀøÖ âðÎõ Á¡Ú§Á ÅÄ¢Â Ì¼ø ¾¢¨Ã §À¡Ä§Å
ÅÖÅ¡Ì§Á ¸Àõ ¾¨ÄÂ¡Ð þÇÌ§Á ÅÂ¢Ú Áó¾õ ÁÄÀó¾õ

- Å¡¾ §¿¡ö ¿¢¾¡Éõ 800 À¡¼ø 160&161
-

1) Heaviness of one upper and lower limb with paraesthesiae
2) Convulsions with frothy saliva and trismus
3) Dysarthria
4) Partial loss of power of the affected limbs

5) Nasal congestion drooping of eyelid with defect in vision
6) Hearing loss and
7) Constipation

According to **THANVANTHIRI VAIDHIYAM** the following sign and symptoms are described:

´Õ ÒÈõ Å¡Ôò¾¡§É ×Â÷óÐ ÒÈò¾¢ÖûÇ
º¢¨ÃÌ¼ü ÅüÈ¢Â¢ó¾ô À¡¸ò¨¾ ÂÂÃî ¦ºöÐ
¾ÕÅ¢Æ¢ ãìÌ ¸¡Ð ºÃ½õ ¿¡ò ¾¡úó¾Â÷óÐ
ÁÕÅ¢Â Ì½í¸û ÀÌ¸Å¡¾ò¾¢ý Á¸¢¨Á ¾¡§É
¾ýÅó¾¢¡¢ ¨Åò¾¢Âõ À¡¼ø 21

Loss of power of all muscles of one half of the body

- There is also deviation of mouth
- Obliteration of nasolabial fold
- The eyes are also involved with paralysis of muscles of the eyes
- Dysarthria

According to AGATHIYAR VAIDHIYA CHINTHAMANI 4000 the following signs and symptoms are given with the disease entitled as Paarisa soolai vatham, the symptoms are:

À¡¡¢ºÁ¡õ Ý¨Ä ¦º¡øÄ¢ø Àó¾¢ìÌõ À¡¾¢Ô¼õÒ
Ü¡¢¨ºÂ¡ §Åø§À¡Öõ Ìò¾ø ¦ºöÔõ µ¡¢Ã×õ
¸ñÀ¨¼Ôõ ¦¸¡ûÇ¡Ð ¨¸ ¸¡ø ¿Îì¸ÓÚõ
ÀñÀ¨¼Â¡ §Å¾¨ÉÂ¡õ À¡÷.
«¸ò¾¢Â÷ ¨Åò¾¢Â º¢ó¾¡Á½¢ 4000

1) Paralysis and pain in one half of the body
2) sleeplessness

3) clonus in the affected limbs

According to THERAIYAR VAAGADAM the symptoms is paralysis of one half of the body. It is given in the verse as

ãÉ¡÷ Àðº Å¡¾õ ´ÕÒÈÁ¡ Â¢º¢òÐ
¿¼ìì ¦Åð¼¡ ¦¾ý§È - §¾¨ÃÂ÷ Å¡¸¼õ

PINIYARI MURAIMAI (Diagnosis):

Diagnosis is arrived at by

Poriyal arithal

Pulanaal arithal

Vinaathal and confirmed by envagai thervugal viz:

1) Naa (Tongue examination)
2) Niram (body colour)
3) Mozhi (speech)
4) Vizhi (eyes)
5) Sparisam (palpation)
6) Malam (faeces)
7) Moothiram (urine)
8) Naadi (pulse)

In poriaal arithal, pulanaal arithal and vinathal, patient's name, age, occupation, income, his thinai, complaints and duration, past history and habits ase recorded. Whenever the patient is having dysarthria or aphasia, his attenders are enquired. The diagnosis is comfirmed by EN VAGAI THERVU.

1) Naa:

In patcha vatham patient may have lost taste sensation or may have dribbling of saliva.

2) Niram:

The niram is noted to confirm the predominant uyir thathu involved.

3) Mozhi:

The patient may have slurring speech, aphasia or dysarthria.

4) Vizhi:

There may be defective closure of eyelid due to muscle paralysis. There may be loss of vision or double vision.

5) Sparisam:

In patcha vatham the temperature may be increased, but in long standing residual paralysis there may be subnormal temperature.

6) Malam:

The amount of feces is reduced. The consistency becomes hard due to vitiation of vatham.

7) Moothiram:

i) Neerkuri:

The amount is usually normal. There may be incontinence in acute cases.

ii) Neikuri:

Due to kaba vatham the neikuri differs accordingly.

i) Naadi:

Naadi pareetchai or pulse reading is confirmatory of the humour involvement and hence the disease. Of the ten areas of naadi pareetchai radial pulse is considered to be more convinent to detect accurate humour involvement,

In patcha vaatham normal 1 : ½ : ¼ mathirai pattern or animal giant pattern of hen, turtle, frog of vatham, pitham, kabam is affected giving rise to elevated maathirai of kabam and vatham than normal.

¸ñ¼¡§Â¡ º¢§ÄüÀÉò¾¢ø Å¡¾¿¡Ê
¸Äó¾¢Î¸¢ø ÅÂ¢Ú¦À¡ÕÁø ¸Éò¾ Å£ì¸õ
¯ñ¼¡§Ä¡ µí¸¡Ãõ º÷ò¾¢ Å¢ì¸ø
¯Ú¾¢Ãð¨º Å¡ö×ÅÄ¢ ºó¿¢ §¾¡¼õ
Å¢½¼¡§Ä Â¢¨ÇôÀ¢ÕÁø §º¡¨À À¡ñÎ
Å¢¼À¡¸õ Å¢¼Ý¨Ä ÀÌ¸Å¡¾õ
¾¢ñ¼¡Îõ ¿¡º¢¸¡À£ ¼í¸ì¸ø
º¢Ã§¿¡ö¸û ÀÄ×õ ÅóÐ º¢ÌÌó¾¡§É
- º¾¸ ¿¡Ê

In sathaga Naadi **kaba vatha** thontham naadi is said as pathological naadi for patcha vatham which is referred as Patcha vatham.

PROGNOSIS:

If any disease is said to be saathiyam it should have following features:

i) Vaatha naadi should not be reduced to a very low maathirai'
ii) Pitham and kabam should not get mixed
iii) Udal anal should not be reduced
iv) Vatham and kabam should not go hand in hand.

- Suththamuni naadi nool

In patcha vaatham, vatham and kabam get mixed, so core must be maintained to avoid complications and to get easily cured.

ÅÕõ À콡 Å¡¾¦ÁÛï º÷Å¡í¸ Å¡¾¦ÁÛí
¸Õõ À¢ò¾ Å¡ÔÅ¡§Ä ¸ñÊÊí ¸ð¼º¡ò¾¢Âõ
¾ÕõÀ¢ò¾É¡º¢ §Ä÷Àï §º÷ó¾ º¡£Ãò§¾¡÷ ¸Â¡÷ÅÁ¢Âó¾ý
«ÕõÀ¢¾¾ ¦ÅðÎôÀð§¼¡÷ì ¸º¡ò¾¢Â ¦ÁýÉÄ¡§Á
¾ýÅó¾¢¡¢ ¨Åò¾¢Âõ À¡¼ø 23

According to THANVANTHRI VAITHIYAM when pithamand vayu gets mixed in a patcha vatham or Patcha vatham patients it can be cured easily and when pitham and kabam are mixed and when patcha vatham results from injuries it can not be cured easily.

¾ÇÁ¡¸§Å «Ð ¦ºýÚ ¯¼ø þ¨Çò¾Åý ¾ý §¾¸Á¡ö þÕó¾¾¡É¡ø
¾ôÀ¡Ð ®Ã¡Ú¦Á¡ýÚ þÕ´ýÀÐõ ¾ýÉ¢ø ÁÈ¢ìÌÁÈ¢Å¡ö
þÇ¨ÁÔ¼§É ¯¼ø ÅÖÅ¡É §¾¸ÁÐ ¬¸¢§Ä¡ þýÚÁÐ ¾¢í¸û ãýÚ
þýÀ¦Á¡Î Å¡¾õ ®¦Ã¡ýÀÐ À¢ý§ÉÔõ ²Ì Á¡È¡Ú ¾¢í¸û
«ÇÅ¡¸§Å ¸¼óÐÂ¢÷ Á¡Ç¡ÐþÉ¢ «ó¾ó¾ §Å¨Ç¾É¢§Ä
«ÏÌõ ÅÕò¾ÁÐ Á¡È¡Ð ±Øó¾¢ý ´Ç„¾õ ¦ºø¸¢§Èý §¸û

Å¡¾ ¿¢¾¡Éõ 800

According to **VATHA NIDHANAM 800** if the patient survives 13th day, 18th day, 3months, 18 months, and 36 months the patient will not die of the disease. There will be residual paralysis and we can treat it by internal and by various pura maruthuva muraigal. This given in the verse as follows:

COMPLICATIONS:

Patcha Vatham is the result of kaba vatha thontham.Kaba vatha thontham is associated with many complications such as death. Death may occur at 13th, 18thdays or 3, 18, 36 months

§Ã¡¸õ ¸Àò¾¢ø Ñ¨Æó§¾È¢ Å¡Ô¾¡ý
Å¡ÌüÈ ¦¿ïº¢ø ÅÄ¢ò§¾ ÁÂì¸¢Îõ
§À¡ÌüÈ À¢ò¾ò¨¾ §À¡¸¡Áø ¾õÀ¢òÐ
À¡ÌüÚô §À¨ºÂ¢ø À¨¾Â¡Áø ¦¸¡øÖ§Á

¾¢ÕãÄ÷ ¨Åò¾¢Â º¡Ãõ 68

According to THIRUMOOLAR VAIDHIYA SAARAM, when kabam and vatham are mixed as in patcha vatham it may cause chest pain and sudden death.

NOI KANIPPU VIVATHAM:

Patcha vatham should not be confused with other types of vatham which have more or less similar symptoms:

URAGADHA VAADHAM : (உரகதவாதம்)

- யூகி வைத்திய சிந்தாமணி – 800

The clinical features are

1. Pain present in the eyebrow, ear and half of the body.
2. Paralysis of the half of the body rarely
3. Involuntary movements of head and mouth
4. Chillness, tingling sensation of the body
5. Excess salivation

"அற்புதமாய் நோவாகிப் புருவங் காது
அங்கத்திற் பாதிதான் வலித்தெப் போதுந்
தற்புதமாய்க் கோணியே தலையும் வாயுந்
தாவவே மிக நடுங்கிக் குறித்த கூசும்
விற்புதனாய் விழிகளுந்தான் மிகைப்புறாது
மெலிவாகி சரீரமெல்லாம் வியர்வை யாகும்
புற்புதனாய் வாய் நீரு மிகவே யூறும்
புகைமே ருரவே தத்தின் பேரே"

- யூகி வைத்திய சிந்தாமணி

ARPUDHA VAADHAM (அற்புதவாதம்)

1. Vaadham mostly exaggerated during intercourse, getting angry, singing loudly, chewing betal nut, threatening and scolding others.
2. The exaggerated Vaadham leads to the paralysis and deviation of mouth.

“தீர்க்கமாய் ஸ்திரீயங்கம் பண்ணும் போதுந்
திடுக்கெனவே வார்த்தைகோ பித்தபோதும்
ஊக்கமா யுறத்துதாம் பாடும் போதும்
உண்ணுமவல் கச்சாயம் பாக்குந் தானும்
ஆர்க்கமாய்த் தட்டியே கடித்த போது
மழகான முகந்தன்னில் வாயுங் கோடாத்
தார்க்கமாய் மிகச்சிதறி வாயுங் கோணுஞ்
சாங்கமா யற்புதவா தந்தா னாமே”

– யூகி வைத்திய சிந்தாமணி

SERVANGA VATHAM:

In servanga vatham there is paralysis of all four limbs in contrary to patcha vatham.

ATTANGA VATHAM:

In attanga vatham there is intense burning sensation in one half of the body in contrary to loss of function in patcha vatham.

AEKANKA VATHAM:

In aekanka vatham there is sweating, pain and burning in one side of the body in contrary to loss of function.

TREATMENT OF PATCHAVAADHAM

In Siddha system of medicine the main aim of the treatment is removal of Udalpinigal (due to alterations of uyir thadhukkal and udal thadhukkal) and Ulappinigal (due to Schizophrenia). Treatment is not only for removal of disease but for the prevention and improving the body condition also. This said to as follows.

1. Kaapu
2. Neekkam and
3. Niraippu

Ayyan Thiruvalluar says about physicians duty "Study the disease; spy the cause; seek subsiding ways and do what is proper and effective" and "The man well versed in medical lore, would measure the patient, disease and time before the healing work begins".

"நோய்நாடி நோய்முதல் நாடி அதுதணிக்கும்
வாய் நாடி வாய்ப்பச் செயல்" - திருக்குறள்

"உற்றான ளவும் பிணியளவுங் காலமுங்
கற்றான் கருதிச் செயல்" - திருக்குறள்

So, it is essential to know the disease, the cause, the nature of the patient, severity of illness, the seasons and time of occurrence must be observed clearly.

The treatment is divided into three types in siddha system of medicine namely Dheva Maruththuvam, Maanida Maruththuvam, Asura Maruththuvam. The Deva Maruththuvam which is one by Parpam, Chendhooram, Sunnam, Padhangam, Kattu, Kalangu and Kurukuligai etc., is high potent and quick effective.

LINE OF TREATMENT

The line of treatment of consist of

1. The purgative drug must be given first to compensate the vitiated Vaadham
2. Medicines, internal and external are to be given for the affected Uyir Thaadhukkal, Udal Thaadhukkal and Vaayus.
3. The Sirappu Maruthuvam are Thokkanam must be done after application of oil for the strengthening the affected part. Varmam, Yogaasanam, Pranayamma and Thiyaanam are also applied as supportive therapy to get quick relief.
4. Physical exercises for both upper and lower limbs must be advised to improve the muscle tone.
5. The food and habits, which are avoiding and adding, are also determined clearly.
6. Kanma neekkam is apart of treatment and it must also be done properly before the treatment.

TREATMENT

(1) PURGATIVE

It corrects the vitiated Vaadham

"விரேசனத்தால் வாதம் தாழுமே"

Murukkanviththu at early morning is given one day before starting the main treatment for given some patients.

"ஓதுகின்ற மலக்கட்டை யொழிய வைத்தால்
உடலிலுள்ள வாதையெலா மொடுங்கிப் போகும்"

(2) MEDICINES

i. The Anti - Vaadha drugs the both internal medicine and the external applications are given to relieve the symptoms and strengthen the affected parts.
ii. Theraiyar process like **OTRADAM** when given with half lime dipped in lightly heated oil and slightly oil fried leaves of plants like thazhuthalai, aadathodai relives pain significantly and also stiffness of joints in chronic patient to some extent.
iii. The 'Kayakalpha' drugs like SERANKOTTAI are more effective to Vaadha diseases and also for rejuvenating therapy.

(3) THOKKANAM (MASSAGE)

Massage is the first friend, which serves the human beings from the time of birth. It is excellent for relieving muscle aches, muscle weakness, muscular atrophy and it is powerful non-drug method to promote sleep by using medicated oils. To be a good massager, one needs to look at the formation and function of the human Physiology and Anatomy musculature. The Physician should be physically and mentally healthy.

Massage which works with blood vascular system, to improve the circulation of blood to the affected parts, nervous system, and lymphatic system.

It's works on the body, both levels of physical and mental. It balances the three Dhosam. There are nine types of thokkanam described in **Theraiyar Tharu**

They are as follows:

1) ¾ð¼ø 2) þÚì¸ø 3) À¢Êò¾ø 4) þØò¾ø 5) «¨ºò¾ø 6) ¨¸ ¸ð¼ø 7) «Á÷ò¾ø 8) ÓÚì¸ø 9) ÁøÄ¡òÐ¾ø.

Among this 9 types **IZHUTHAL** relieves hypertonicity to some extent and **ASAITHAL** increases grade of power to major extent.

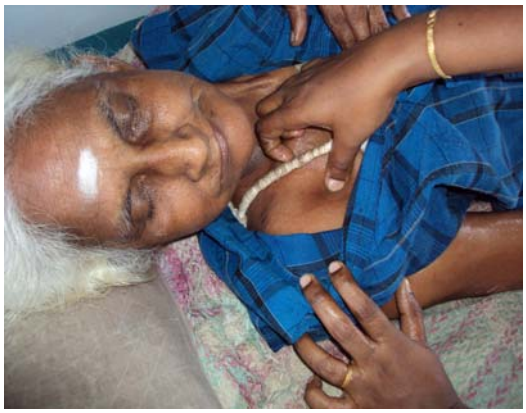
AMARTHAL done in following varma points also produces significant effect

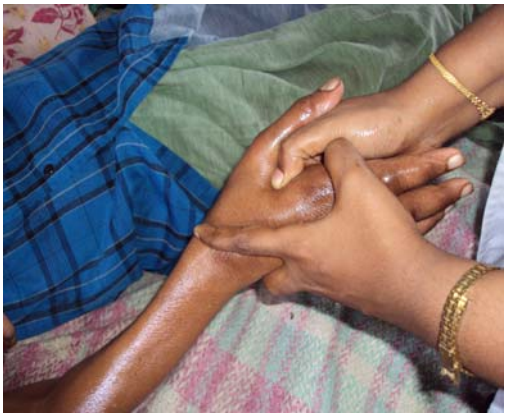
¨¸Â¢ø ¯ûÇ Å÷Áí¸û:

1) Å¢ÄíÌ Å÷Áõ
2) ¨¸ìÌÆ¢ Å÷Áõ
3) «ìÌû Å÷Áõ
4) ¨¸Á¼ìÌ Å÷Áõ
5) Á½¢ Àó¾ Å÷Áõ
6) Ð¾¢ì¨¸ Å÷Áõ

¸¡Ä¢ø ¯ûÇ Å÷Áí¸û:

1) ¸ñÏ Å÷Áõ
2) ¦Á¡Æ¢ ¦À¡ÕòÐ Å÷Áõ
3) À¨¾ôÒ Å÷Áõ
4) ÓðÎ Å÷Áõ
5) ¸Ãñ¨¼ Å÷Áõ
6) ¸ÅÇ¢ Å÷Áõ





1. PHYSICAL

Rubbing of the body produces heat and increases the blood circulation. It affects the lymphatic system and supplies more blood to the affected area. Body heat and vitality increase as the heart and circulatory open up to provide fresh

oxygen and vital energy to all parts of the body while simultaneously drained out waste gases and toxins. As it increases circulation of blood any body temperature massage should be avoided during high blood pressure and Hyper pyrexia.

2. PSYCHE

Through touch massage works on the nervous system and affects the circulation of growth hormone. All feelings and fantasies of the massager one transmitted to the person getting the massage.

Massage, also increases the production of WBC and antibodies, which provide more resistance against foreign bodies. This helps in the defense mechanism of the body and increase immunity towards environmental changes. The medicated oil also helpful to the patient to protect them from bedsores.

3. SIRAPPU MARUTHUVAM

Varumam, Thokkanam, Yogaasanam, Piranaayaamam and Thiyaanan are the sirappu maruthuvam in the treatment of "Patchavaadham" and they are done as supportive therapy for quick relief.

1. YOGAASANAM (Postures)

The yogaasanams are reliable supportive or sometimes main part of treatment of Vaadha diseases generally or specially. This therapy is regarded as a science as well as a method that allow living a harmonious life. The yogaasanaas are useful not only to revive the body and also to strengthen the nervous system. It is more important than physiotheraphy for not spending more physical energy and also provides the mind to be calm. To regenerate the glands and treats the physical and mental illness, they bring the human body under the complete control of the mind.

In cases of improved 'Patchavaadham' Bhujangaasanam, Shalabhasanam, Pawanamuktasana and in cases of fully affected "Pakka vaadham" Savaasanam are very useful.

1. Bujangaasanam

Position

Lie prone on the blanket keeping the legs together, chin touching the ground and the legs facing up, stretch the hands straight forward, alongside the head resting the palms of the ground.

Procedure

1. Bring the arms back to the level of the 12^{th} rib bone. keep the hands bent at elbows, least pressure to be exerted on the hands maintain the elbows touching the body let it not spread out.
2. Raise the head first and then the upper portion of the trunk slowly, just as the cobra raises its hood, fill the naval portion is about to leave the dorsal spine touch the body below navel straight in touch with the ground.

2. Shalabhasanam

Position

Lie prone on the blanket, keeping the legs and hands together, chin and palm facing the floor and heal facing up. Rest the face towards the floor.

Procedure

Raise the legs upwards without bending the knees for that knee facing towards top and lesser pressure to be exerted by hands on the body to provide support.

Wait for few minutes and then return the same to initial stage.

3. Pawanamuktasanam

Position

He supine on the Plantar the keeping the legs together heel posterior of the thigh, back palms of hands and scapular of the shoulder touching the ground and the face, chest, knees, toes of legs facing upwards.

Procedure

1. Bring the knees close to the neck and that thigh touches the chest closely, chin and fingers of the legs faces upwards, knees bend at the level of nipples.
2. Raise the head first and this upper portion of the trunk slowly and shin touches the knees, tie the hands with one another on the shin to keep the knee close to chest as able as possible.

4. Savaasanam

Position

Lie supine on the ground with hands feet apart.

Procedure

1. Slightly stretch the body and allow the whole body to relax completely.
2. By concentrating the mind on different parts of the body starting form the toes to the head, a feeling of relaxation is propagated.

1. Maharaasanam

Stages of Maharaasanam - I

1. Ask the patient to lie in the supine position with the fingers showing Muththirai.
2. Turn the hip and lower limbs towards right side while the neck and head facing left side. Repeat the same in opposite direction.

3. Ask the patient to come back the initial position. Flex knee close to the thigh.
4. In the same position, ask the patient to turn the knee to the left side while neck & head facing towards right side.
5. Repeat the same in upward direction.
6. Ask the patient to come back the initial position. Hold the right leg over to left leg.

7. Turn the hip towards right side while head and neck facing towards right side. Repeat the same in opposite left direction.
8. Ask the patient to flex the left elbow and left knee. Repeat the same in opposite direction.
9. Ask the patient to come back to the supine position and relax.

Stages of Maharaasanam - II

1. Ask the patient to lie down in the floor fact, chest, palms, knees touches the floor as shown in fig - 1
2. Turn the face trunk and hip to the left side. Repeat the same in the right side.
3. Ask the patient to come back to the initial position. Hold the feet touch the thigh by flexing the knee.
4. Turn the feet to the left side while trunk and face towards right side.
5. Repeat the same in the opposite side. Ask the patient to hold the right leg over the left leg and turn the hip towards left side and then right side.
6. Ask the patient to raise the left upper limb and flex the right knee.
7. Repeat the same in opposite side. Ask patient to lie down relax.

(II) PRANAYAMAM

Prana means vital force or oxygen or cosmic energy.

Niyama means the control of the Pranan.

Regular practice of the "Pranayamma and Asanaas combined with control of the mind will combat negative elements such as ignorance, laziness, inertia and over excitement as well as increasing the will power.

Procedure

One respiration consists of the cycle of inspiration, retention and expiration.

1. First, inhale one part of air through left nostril (Pooragam)
2. Then, retention must be done four parts of air (Kumbagam)
3. Then, exhale two parts of air through right nostril (Resagam)

4. Again inhale through right nostril
5. Then retention
6. And then exhale through left nostril.

These six events complete a cycle of Pranayamma

The main object of Pranayamma is to acquire mastery of the vital force, action with in the body. It improves the functions of Piraanan, nourishes the body cells, purifies blood and tones up nerves. There are many types of pranayamma among that **sheethali and sitkari** pranayamma are easy to practice and also effective for hemiplegic patient.

UJJAYEE

SITKARI

OXYGEN FOR NERVES

The excitability of the central nervous system, i.e., its ability to become active, varies under different conditions.

One of the conditions for normal activity of the brain and spinal and cord is an adequate supply of oxygen to the nerve cells. The cells of the brain and spinal cord consume much more oxygen than the cells of other organs. An inadequate supply of oxygen leads to a decrease in the nerve cells and may kill them. It is also clear that changes in the blood circulation in the brain impair the brain's activity because they disturb the normal supply of oxygen and nutrients.

ROLE OF THE NERVOUS SYSTEM

The nervous system regulates the activities of the different organs and of the entire organism. Muscular contraction, glandular secretion, heart action, metabolism and the many other processes continuously operating in the organism are controlled by the nervous system.

The nervous system links the various organs and systems, co-ordinates all their activities and ensures the integrity of the organism.

Human Anatomy and Physiology

by **V.TATARINOV**

In case of 'Patchavaadham' Pranayamma corrects the disturbed Piraanan tones up the nerves of affected area and also increases oxygenated blood to the body.

(III) THIYAANAM (MEDITATION)

"கொல்லான் பொய்கூறான் களவிலான் எண்குணன்
நல்லான் அடக்க முடையான் நடுச்செய்ய
வல்லான் பகுத்துண்பான் மாசிலான் கட்காமம்
இல்லான் இயமத்திடை யில்நின்றானே"

"தூய்மை அருளுன் சுருக்கம் பொறை செவ்வை
வாய்மை நிலைமை வளர்த்தலே மற்றியவை
காமங் களவு கொலையெனக் காண்பவை
நேமியீ ரைந்து நியமத்த னாமே"

– திருமூலர்

Thiyaanam means the continuous flow of the mind towards "Aathmaa" (soul or mind) through the total exclusion of all ideas foreign to it. The principle disciplines for Thiyaanam are eyamam and niyamam. Eyamam includes non-violence, truth fullness, non-stealing, and sensation of all women as mothers and sisters except wife and not speaking and doing useless matters. Niyamam means

outer and inner purity, contentment austerities, study of scripture and devotion to God. By Thiyaanam man can know himself, so it is helpful in stressful mental conditions and gives relaxation to mind.

"Yogic physical culture, unlike the many western systems of physical culture, does not make a pretence of merely developing the superficial muscles of the body, but the exercises do make them healthy and strong, particularly the trunk muscles, by requisitioning their help to tone up all the involuntary organs of the body which are mainly concerned with such processes as digestion, evacuation, circulation, respiration and section, and through them, the automatic nervous system which regulates their activities from "Yogic asanas for health and vigour " V.G.Rele, L.M & S., F.C.P.S.

In cases of Patchavaadham, Thiyaanam gives complete rest to the body and provides relaxation.

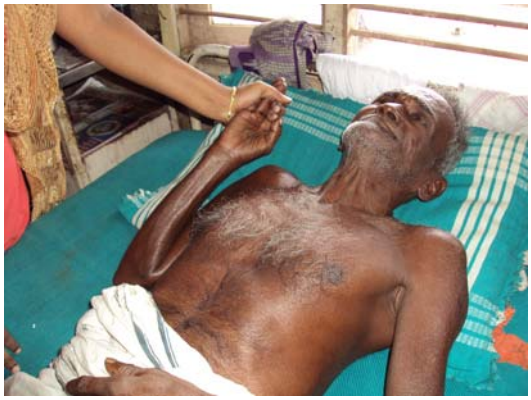
(IV) EXERCISES

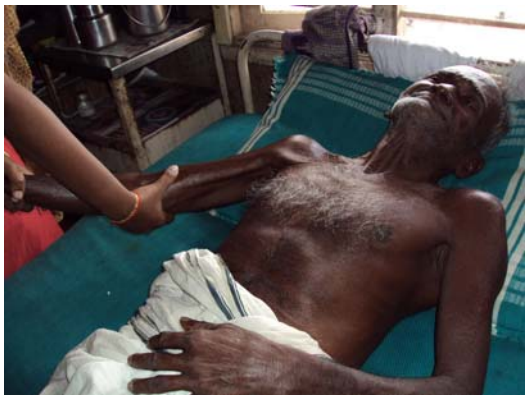
EXERCISES FOR HAND

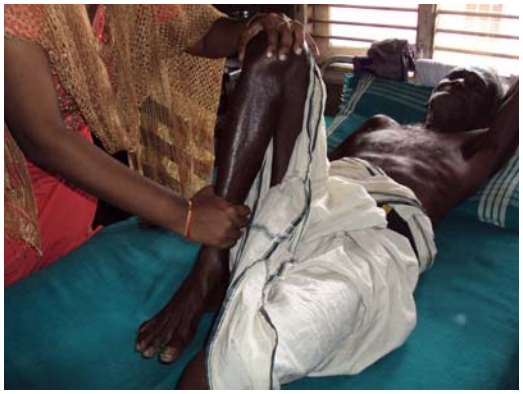
1. Stand in relaxed position
2. Raise both the upper limbs evenly upwards and join together above the hand.
3. Bring the upper limbs as in the initial stage.
4. Raise both the upper limbs up to the shoulder level in front of the chest and join together.
5. Extend the upper limbs outwards to the maximum extend while facing the face and palms in same direction.
6. Move the right and left upper limbs alternatively and simultaneously back and front.
7. Raise the up to shoulder level and bring the forearm in front of the chest. Then hold both the thumbs touching together.
8. Stand in the relaxed position and turn the hip. Turn shoulder, neck and head to the left side and do the same turn towards right side.
9. Stand in the knee flexed position and turn the hip, trying to make a circle.

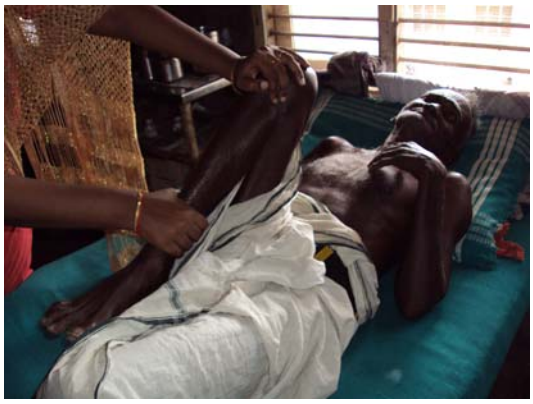
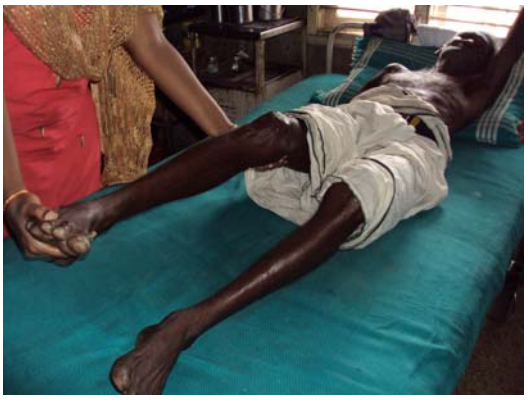
EXERCISES FOR LEGS

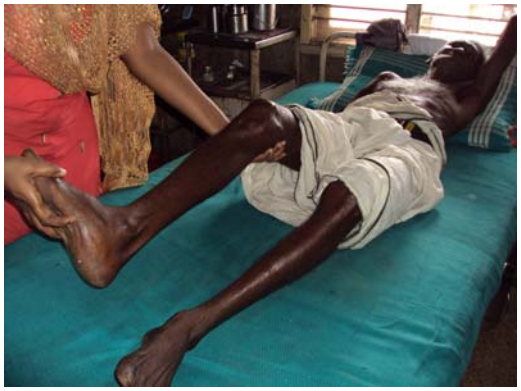
1. Ask the patient to sit comfortable as shown in fig.1
2. Bring the both great toes touching together.
3. Turn the both feet towards right side as shown in fig.3
4. Again turn the both feet towards left side as shown in fig.4
5. Flex the right knee and lie over the left thigh. Hold the toes by using the fingers.
6. Repeat the same exercise in the opposite side leg.
7. Ask the patient to be in knee down position, bring the fingers join together behind the hip.
8. Hold the hands in the same position supporting the hip.
9. Ask the patient to bring the fingers behind the buttocks.









5. PATHTHIYAM (Diet regimen)

Paththiyam is also an important part of treatment. It is divided into three types namely Echcha Paththiyam, Kadum Paththiyam and Migakkadum paththiyam. Uppilla paththiyam is also mentioned in many ancient siddha literatures, especially for the vaadha diseases.

Uppillaa Paththiyam

The salt free dieting during treatment and then the same duration of salt free redieting are followed strictly. The day after fried salt must add in diet and taking oilboth with milk of Omam and cow's ghee. Then only salt may be added in diet.

With this, the following food and habits must also be followed. Add twicely cooked rice, brinjal, green vegetables and non-vegetables diet like kaadai (காடை) koudhaari (கௌதாரி) udumbu (உடும்பு) and vellaadu (வெள்ளாடு)

Avoid the tubers and other Vaadha vitiated foods.

Avoid the exposure of Cold air.

The bed must be clean without moisture.

Keep the mind peaceful

Padhaarththa Guna Sindhaamani (gjhh;j;j Fz rpe;jhkzp) advices the following foods for Vaadha diseases.

Root of water lily (Pontedria veginalis), Costus root (Costus specious), honey, black pepper (Piper nigrum), gingili oil, Asafoetida, Thazhudhaazhai, (Clerodendron phlomoides) Caster oil and Black gram.

“செங்கழு நீர்கோட்டந் தேன்மிளகு நல்லெண்ணெய்
தங்குபெருங் காயங் தழுதாழை - எங்கெங்கு
கூட்டுசிறு முத்துநெய் தோதில் உழுந்திவைகள்
வாட்டுமணி லத்தை மதி”

- பதார்த்த குண சிந்தாமணி

Proper dietetic regimen enhances the effect and bioavailability of the drug and in conductive to the maintenance of good health. If dietetic regimen is not followed properly, certain foods may incompatible and antagonize the drug effect and produce harmful effects to the body.

“பத்தியத்தி னாலே பலனுண்டாகும் மருந்து
பத்தியங்கள் போனால் பலன் போகும் - பத்தியத்தில்
பத்தியமே வெற்றிதரும் பண்டிதருக் காதலினாற்
பத்தியமே உத்தியென்று பார்”

தேரையர் யமக வெண்பா

VAADHA PACIFYING FOOD LIST

Grains	:	Barley, Amaranth, Wheat, oats and Quinea.
Legumes	:	Mung beans, Aduki beans, Split yellow mung dal, Red and yellow split pea. Urad dal. All these should be cooked to a soft consistency.
Fruits	:	Sweet and sour tastes, like grapes, lemons, pears, bananas, sweet organs dates, figs, apples (preferably cooked) avocados berries and a small amount of raisins.
Vegetables	:	Sweet vegetables like beets, cauliflower, leeks, carrots, asparagus, cilantro, fennel and a small amount of garlic, green beans, green chilies, okra, parsnips pumpkins and radishes (Preferably cooked)
Spices	:	Avoid using hot, pungent, drying spices. Use fresh spices like gingerroot, cilantro, cumin, coriander and fennel seeds, turmeric and asafoetida (hing)
Dairy	:	Fresh, whole and homogenized milk ghee and a small amount of butter.
Meats	:	White meat like chicken, fish, or turkey (Baked or broiled) and chickens broth.
Nuts	:	A small amount of almonds, pecans and sesame seeds.
Oils	:	Sesame and olive in a smaller amount.

6. KANMA NEEKKAM (EXPIATION)

Kanma means the deeds which are bad, committed by an individual in this and previous births. So he must expiate, it to get better relief before the treatment.

To expiate the misdeeds of kanmam

Planting the young trees.

Establishing the gardens.

Laying roads and pathways.

Digging wells

Ponds for public use.

Constructing temples and

Denouements to poor children must be done.

“நலியாலே வந்த கன்மம் தீரவென்றால்
நன்மரங்கள் தேர்ப்பு நடைசாலை வைத்தல்
தெளிவான கிணறுவெட்டல் குளங்கள் வெட்டல்
தெய்வதலம் கோயில் கட்டத் தீரும்பாரு
எளிதான பாலகாக் காபரண மீதல்
என்ப தென்ற வாதமெல்லா விடந்துபோகும்
பழியான நோய்வந்தா லிப்படியே செய்து
பரிவாக வைத்தியத்தைப் பிறகு செய்யே”

அகத்தியர் கன்ம காண்டம் 300

REVIEW OF LITERATURES MODERN ASPECTS ANATOMY

INTRODUCTION TO NERVOUS SYSTEM

The nervous system which controls all motor and sensory functions of the body, may be divided into The central nervous system made of brain and spinal cord.

The peripheral nervous system consisting of the peripheral nerves and ganglia associated with them.

In central nervous system, the brain consists of

1. The Cerebrum comprising two large cerebral hemispheres
2. The Cerebellum
3. The Mid brain
4. The pons
5. The Medulla oblongata

The Mid brain, the pons and the medulla together form the brain stem. The medulla is continuous below with the spinal cord. Peripheral nerves attached to the brain are called cranial nerves and those attached to the spinal cord are called spinal nerves.

In peripheral nervous system, the peripheral nerves include those that supply the skin, muscles, joints, limbs and those that supply visceral structures (e.g) heart, lungs, stomach etc. Each of these sets of peripheral nerves is intimately associated with the brain and spinal cord. The nerves supplying the body wall and limbs are often called cerebrospinal nerves. The nerves supplying the viscera along with the parts of the brain and spinal cord related to them constitute the autonomic nervous system. The autonomic nervous system is subdivided into two major parts as sympathetic and parasympathetic nervous system.

The specialized cells that constitute the functional units of nervous system are called “Neurons”. Neurons are supported by a special kind of connective tissue called neuroglia. The nervous tissue is richly supplied with blood.

A neuron consists of a cell body that gives off a variable number of processes. Most neurons give off a number of short branching processes called “Dentrites” and one large process called an ‘Axon’. In a dentrite the nerve impulse travels towards the cell body, where as in an axon the impulse travels away from the cell body Axons having a. myelin sheath are said to be myelinated and those without it are said to be unmyelinated.

The peripheral nerves are collections of nerve fibres, these fibres are simply axons. In some cases they are dentrites that are indistinguishable in structure from axons.

An axon may give off a variable number of branches. An axon can terminate in two ways. With in the central nervous system the axon always terminates by meeting another neuron. The junction between the two neurons is called a synapse. Outside the central nervous system, the axon may end in relation to a muscle or to a gland or may end by synapsing with neurons in a peripheral ganglion.

FORMATION OF CENTRALNERVOUS SYSTEM

The nervous system developed from the ectoderm called neural ectoderm. It is formed anterior to the Hense’s node of embryo. The neural ectoderm will become neural groove. The neural groove deepens and develops lips elevated in either side. The elevated lips of neural tube is becoming brain vesicles. The brain vesicle is divided into three bulb like swellings called prosencephalon, mesencephalon and Rhombencephalon.

1. PROSENCEPHALON

It is otherwise called as fore brain which is divided into Telencephalon and Diencephalon. The telencephalon becomes cerebral hemispheres and forms a cavity called lateral ventricles. The diencephalon becomes thalmus and forms a cavity called third ventricle.

2. MESENCEPHALON

It is otherwise called as mid brain and forms a cavity called cerebral aqueduct.

3. RHOMBENCEPHALON

It is otherwise called as Hind brain which forms a cavity called IV ventricle. The rhombencephalon divided into metencephalon and myelencephalon which becomes (I) Cerebellum (ii) pons and medulla oblongata consequently.

4. NEURAL TUBE

It becomes spinal cord and forms a cavity called central canal of spinal cord.

PARTS OF THE BRAIN

The brain is made up of

A pair of Cerebral hemispheres

A pair of Cerebellar hemispheres

Mid brain

Pons

Medulla oblongata

The nuclei of the oculomotor and trochlear nerves are situated, in the mid brain. The nuclei of the trigeminal, abducent, facial and a part of vestibulo cochlear nerve are found in the pons. A part of the nucleus of vestibulo cochlear

nerve, nucleus of glosso pharyngeal, vagus, accessory and hypoglossal nerves are found in the medulla oblongata.

The brain and the spinal cord are covered by meninges. The meninges has three layers

Duramater	-	Innermost layer
Arachnoid	-	Middle layer
Piamater	-	Outer most Layer

The duramater covering the brain has two layers. Here and there venous sinuses are situated between these two layers. Venous sinuses are connected with veins of the scalp and the veins of the face via emissary veins. So infection from these areas spread to the brain via emissory veins. The subarachnoid space contains cerebro spinal fluid, which is diagnostic important for the diseases of the brain of meninges.

ANATOMY OF THE BRAIN

CEREBRUM

The cerebral hemispheres are two in numbers. They are separated by median longitudinal fissure. They are united by corpus callosum. The falx cerebri is a fold of duramater separates the two cerebral hemispheres. Each hemisphere is having three borders, three poles and three surfaces. The borders are superomedial, inferomedial and inferolateral border. The surfaces are superolateral, medial and inferior surfaces. The surfaces of hemisphere have elevations and depressions. Elevations are gyri and depressions are sulci.

LOBULATIONS

The cerebrum has four lobes frontal, parietal, temporal and occipital.

i. Frontal Lobe

It is bounded anteriorly by frontal pole, posteriorly by central sulcus, superiorly superomedial border, inferiorly inferolateral border and posterior ramus of lateral sulcus. The frontal lobes has got Pre central gyrys (Broadman's area No. IV)

Superior frontal gyrus.

Middle frontal gyrus.

Inferior frontal gyrus.

The basic functions of the frontal cortex are

Motor function of the opposite half of the body

Motor speech function

Personality, behavior and intelligence

Frontal eye field.

Frontal lobe calculates the future life. so it has hindsight, insight and foresight.

TEMPORAL LOBE

From the posterior ramus of lateral sulcus a line is drawn to the imaginary line between the parieto occipto sulcus and pre occiptal notch. This line separates the "Temporal Lobe".

In the temporal lobe there are superior temporal sulcus and inferior temporal sulcus. So the temporal lobe is divided into (i) superior temporal gyrus(ii) midlle temporal gyrus (iii) Inferior temporal gyrus. In the middle of the superior temporal gyrus the "Auditory area" is situated. Just above the auditory are ain the frontal lobe there are motor speech area and area for the larynx. A pathological lesion around these areas causing "Deaf Mutism".

The temporal pole turned inwards to become uncus. The uncus will be having “Smell function”. In certain conditions of convulsions the patient first feels a new smell sensation following that the development of convulsions or fits. This is called uncinate fits.

PARIETALLOBE

Anteriorly bounded by central sulcus, posteriorly imaginary line between parieto occipital sulcus and preoccpital notch, superiorly supero medial border, inferiorly posterior ramus of the lateral sulcus and line drawn backwards.

Parietal lobes is situated posterior to the central sulcus. Behind central sulcus posterio central gyrus is seen. The posterior central gyrus is the sensory area of the opposite half of the body. (The Broadman’s are 1, 2, 3). The posterior central gyrus receives almost all sensatioin except visual and auditory. The touch, pressure, temperature, pain etc are received by the posterior central gyrus. Intra parietal sulcus divides the parietal lobes into superior parietal lobules and inferior parietal lobule. The posterior ramus of the lateral sulcus, the superior temporal sulcus and inferior temporal sulcus are passing into the inferior parietal lobule. Memory is the chief function of the superior parietal lobule. Stereogonastic function is the chief function of the inferior parietal lobule.

OCCIPITAL LOBE

5cm in front of the occipital pole in the superior medial border, parieto occipital sulcus is situated. 5 cm in front of the occipital pole in the infero lateral border pre-occipital notch is situated. An imaginary line is drawn on parieto occipital sulcus and pre-occipital notch. This line will separate the occipital lobe. On the lateral surface of the occipital lobe there is transverse occipital sulcus. Behind that lunate sulcus is situtated. The visual areas i.e., visuvo-sensory and visuvo-psychic (area 17, 18, 19) are situated here. The parieto occipital sulcus is surrounded by a gyrus called Arcus parieto occipitals.

BLOOD SUPPLY

The brain is requiring continuous supply of the blood for its normal biochemical activity. Stoppage of blood for few seconds will damage the brain substances permanently. The vascular supply is by means of the circle of willi's (the polygon of willi's) This arterial circle is situated in the subsrachnoid space of the peduncular fossa.

FORMATION OF CIRCLE OF WILLI'S

Circle of willi's is formed by the combination of vertebral system and carotid system.

1. A pair of vertebral artery unit at the lower border of the pons to form basillar artery.
2. The basillar artery is ultimately dividing into a pair of posterior cerebral artery.
3. The penaltimate branches formed from basillar artery are superior cerebellar artery.
4. Internal carotid arteries lateral to the optic chiasma gives anterior cerebral artery and continuous as middle cerebral artery.
5. The posterior communication artery is branch of internal carotid joins posterior cerebral artery.

Three pairs of arteries supply the cerebrum

1. Anterior cerebral artery.
2. Posterior cerebral artery.
3. Middle cerebral artery.

The arteries that supply superior lateral surface are

1. Middle cerebral artery.
2. Anterior cerebral artery.
3. Posterior cerebral artery.

Functionally middle cerebral artery supplies

1. Motor area of the opposite half of the body except leg and perineum.
2. Auditory area
3. Motor speech area.
4. Area of the frontal lobe maintains personality behavior, intelligence and memory areas.

The anterior cerebral artery supplies the upper border in the supero lateral mainly motor and sensory cortex of the leg and perineum.

TENTORAL SURFACE

Uncus is supplied by middle cerebral artery. The rest of the tentoral surface is supplied by posterior cerebral artery that supplies visual area.

The middle cerebral artery gives Lentriculo striate artery or artery of cerebral haemorrihage or artery of charcot. This artery pierces inside the lateral sulcus. It traverses (i) clavestrum (ii) external capsule (iii) Lentiform nucleus (iv) internal capsule (v) thalamus. This artery supplies the lentiform nucleus, caudate nucleus and thalamus.

Anterior cerebral artery supplies medial surface of the cerebrum above the corpus callosum, upto the parieto occipital sulcus so paracentral lobule is supplied by anterior cerebral artery. Anterior cerebral artery controls the functions of the defaecation, micturition and parturition. Abnormally there may be an unpaired anterior cerebral artery. Obstruction of this artery is a common cause for paraplegia.

CORTICO SPINAL TRACT

The cerebral cortex has nerve cells called “Betz” cells. The largest cells of these nerve cells pass downwards into the cerebrum to form the “corona radiata”. The corona radiata descends between caudate nucleus and thalamus on the medial side, lentiform nucleus on the lateral side. Now it is called “internal capsule”. The

internal capsule descends into mid brain, it thus passes down in the pons and medulla oblongata. In the medulla oblongata rest of the fibers cross and to the opposite side to form lateral cortio spinal tract. The fibres that do not cross descend or on the ame side to form anterior cortico spinal tract. The fibres of the lateral cortico tract pass into the ventral ramus of the spinal nerves to supply muscles.

INTERNAL CAPSULE

This is a compact later of white matter with in the cerebral hemisphere. It is the downward continuation of "coronaradiata". It is situated in the internal bounded medially by caudate nucleus and thalamus laterally by lentiform nucleus.

Frontoponto fibres originate from the frontal cortex, passes through the anterior limp of external capsule. It descends into medial 1 / 5^{th} of the cerebral peduncle. It enters the pons, it crosses to the opposite side, it synapses with the nuclei points. From the nuclei points fresh fibers arise and go to the cerebellum. So these fibres may be better called as front to ponto cerbellar fibres.

"Genu" is a bent of the internal capsule. It is situated between anterior limp. It mainly contains.

1. Cortico nuclear tract
2. A part of superior thalamic radiation. The cortico nuclear tract is extending from the motor cerebral cortex to the motor cranial nerve nuclear tube 3^{rd}, 4^{th}, 6^{th} a part of 5^{th}, 7^{th} a part of 9^{th}, 10^{th}, 11^{th} and 12^{th} mainly to the opposite side.

The nucleus of the facial nerve receiving cortico nuclear tract from both cerebral hemispheres. So if one cerebral hemisphere is affected, the upper half of the face will not be paralyzed, because it is supplied by opposite cortico nuclear tract.

The cortico cerebral fibres formed from the motor cortex, they pass through the posterior limp of internal capsule and enter the red nucleus of mid brain. They belong to extra pyramidal system. Pathology of this tract cause “parkinsonism” disease.

Injuries involving the mid brain affecting cortico spinal tract and oculomotr nerve is called weber’s syndrome. In this hemiplegia of the opposite side oculomotr nerve paralysis of the same side. (Egyball is deviated laterally).

Injuries involving cortico spinal tract, red nucleus, occulomotor, nerve is called benedict’s syndrome. In this (1) hemiplegia of opposite side (2) oculomotor paralysis of the same side (3) Tremors or parkinsonism disorders on the same side.

The internal capsule which vascular supply is divided into upper half and lower half.

The upper half is supplied by direct branches of the middle cerebral artery like lenticulo striate artery or artery of charcot or the artery of cerebral hemorrhage.

The lower half of the internal capsule is supplied by

1. Anterior cerebral artery (Artery of Hubanar).
2. Posterior communicating artery.
3. Choroidal artery.

The injury to lentriculo striate artery cause commonest type of cerebral hemorrhage.

Corpus callosum is a median band of white mater connecting both cerebral hemispheres, it is a mammalian feature. It is situated in the floor of the median longitudinal fissure having “C” shaped callosal syndrome is due to pathological lesions in the corpus callosam i.e., inability to match or identify anything kept in the left hand.

VENTRICLES

There are two lateral ventricles, III ventricle and IC ventricle. III ventricle communicates with IV ventricle via cerebral aqueduct. IV ventricle communicates with subarachnoid space communicating with saggital sinus via arachnoid villi and granulations septum pellucidum separates both lateral ventricles.

CEREBELLUM

It is situated in the posterior cranial fossa. It is made up of two hemispheres united by vermis. Cerebellum is found dorsal to pons, medulla and. IV ventricle. Cerebellum is connected to the other parts of nervous system through the peduncles connect the mid brain and cerebellum.

BLOOD SUPPLY

Vascular supply through

1. Superior cerebellar artery
2. Anterior inferior cerebellar artery
3. Posterior inferior cerebellar artery.

Cerebellum may be damaged in alcoholics or drug, head injuries. So the functions of the cerebellum are lost in the affected side due to cerebellar paralysis.

i. Titubation (shaky movements of the head)

ii. Irregularly halting during speech i.e, cerebellar dysarthria

iii. Shaky movements of the hands and foot

iv.Not able to fix the vision to the object, vertigo, headache, vomiting. etc.,

EXTRA PYRAMIDAL SYSTEM (Basal ganglion)

The consists of basal ganaglia and their connections.

THE BASAL GANGLIA

The basal ganglia are group of nuclei situated deep within the substance of the cerebral hemispheres and brainstem, and include the caudate nucleus, putamen,

globus pallidus (or pallindum), the claustrum, subthalamic nucleus, and substantia nigra.

The puramen and pallidum together form the lentifrom nucleus.

The caudate, putamen, and pallidum nuclei are collectively referred to as corpus striatum. The corpus striatum plays an important role in the regulation of posture.

Phylogenetically, the pallindum (palesostriatum) is older than the caudate nucleus and putamen (neostriatum).

The globus pallidus (pallidum) is the final efferent cell station of the basal ganglia, its activity being influenced by inputs from the cortex, striatum, substantial nigra, and subthalamic nucleus. The principla efferent pathway from the pallidum passes rostrally via the ventrolateral nucleus of the thalamus and caudally via the subthalamic and red nuclei. It plays a vital role in initiating movement.

The Principal Connections of the Basal Ganglia

1. From the cerebral cortex to the striatum and from there to the pallindum. From the pallidum fibres pass to the thalamus (nucleus ventralis anterior and nucleus ventralis lateralis) and from here back to the motor cortex.
2. Efferent pathways connect the pallidum with the subthalamic nucleus and substantia nigra.
3. A pathway exists from the substantia nigra to the striatum.

Signs of Extrapyramidal Lesions

Sign	Site of lesion
Resting tremor	Substantia nigra, red nucleus
Muscular rigidity	Substantia nigra, putamen
Hypokinesia	Substantia nigra, globus pallidus, putamen
Chorea	Caudate nucleus
Hemiballismus	Subthalamic nucleus
Dystonia, athetosis	Putamen

MID BRAIN

It is embryologically developed from the mesencephalon. It has got the nuclei of the oculomotor and trochlear nerve. It is situated in the posterior cranial fossa. In the lower part of the mid brain, nucleus of the trochlear nerve persists into tegmentum. It runs dorsally and it decussates, emerges on the dorsal surface of mid brain. It is the only cranial nerve emerging from the dorsal surface of brain.

PONS

It is situated between medulla oblongata and mid brain. It is ventral to the IV ventricle. In the ventral surface of the pons there is a midline sulcus called basillar sulcus. This sulcus lodges basillar artery either sides of basillar sulcus elevation caused by cortico spinal tract. Pinpoint pupil, fever, headache, and hemiplegia of the opposite side should be diagnosed as hemiplegia due to pontoin haemorrhage.

MEDULLA OBLONGATA

It extends from the lower border of the pons to the upper border of the atlas and it is continued downwards in the spinal cord.

1. Between the pyramid and the pons ‘Abducent nerve’ emerges.
2. Between the olive and the pons ‘Facial nerve’ emerges.
3. Between pyramid and olive "IX^{th} X^{th} XI^{th}" cranial nerves emerges out of medulla.

VASCULAR SUPPLY

Medulla oblongata has vascular supply by

1. Vertebral artery
2. Anterior spinal artery
3. Posterior spinal artery
4. Posterio inferior cerebellar artery

Obstruction of the posterio inferior cerebellar artery cause lateral medullary syndrome. So the patient has symptoms of paralysis of medulla, oblongata and its cranial nerves with cerebellar paralysis.

APPLIED PHYSIOLOGICAL ANATOMY OF THE NERVOUS SYSTEM

The central nervous system consists of vast numbers of neurons, both afferent and efferent. A neuron is a nerve cell with its dentrites and axon. The nerve cells are found in the gray mater of the cortex, basal ganglion and nuclei. The central gray mater of the spinal cord and in posterior root ganglion. The axons are collected into bundles or tracts and run mostly in the white mater and peripheral nerves. The nerves impulse travels at different rates in different nerves. A synapse or junction between two neurons will allow an impulse to pass one direction only. At the synapse a chemical change occurs acetyl choline may be released. In central synapses by the passage of the impulse and is split by an enzyme cholinesterase. This effect is also observed at the end organs of may peripheral neurons (e.g) neuromuscvlar junction. Not all central synapses however are cholinergic, the mediator in non-cholinergic synapses is not known.

The brain is provided with a number of enzymes, which serve its metabolism. Some of this regulate the supply of glucose to brain cells by oxidizing carbohydrate.

Carbohydrate is broken down to pyruvic acid, before being oxidized to Co_2 and H_2o by a second path pyruvic acid is not an inter mediatory product of

carbohydrate break down. An absence of aneurine (which acts as a catalyst) from the diet will lead to accumulation of pyruvates in the blood and CSF. In brain cell metabolism protein and aminoacids seem to be less importance although recent work suggests that glutamic acid (an amino acid) plays an important role.

The disease **Patcha vatham** in siddha literatures correlates with **cerebro vascular accident - Stroke Syndrome** of central nervous system. Cerebro Vascular accident is the first and foremost among the disorders of CNS.

It is the third commenest cause of morbidity and mortality Now a days strokes are common in elderly patients at the age of 50-60 and even younger individuals below and around the age of 40 are also affected.

General Considerations

Disorders of the central nervous system secondary to pathological processes involving the blood vessels are very common above the fifth decade of life. Any sudden, non-convulsive focal neurological deficit can be referred to as "stroke". Vascular disorders are characterized generally by their abrupt onset. Strokes are broadly divided into ischemic and hemorrhagic lesions. When the supply of oxygen and glucose to the brain is interfered with, ischemic necrosis and infarction develops. Obstruction of an artery may be either by a thrombus or an embolus. Sometimes gross impairment of the cerebral circulation may result from hypotension produced by cardiac failure or shock and this may also lead to cerebral ischemia. When the mean arterial blood pressure falls below 60 mmHg the cerebral blood flow depends upon the gradient between the mean arterial blood pressure and intracranial pressure.

Stroke in Indian Scenario

Strokes are common in India. Though it is predominantly a disease beyond the age of 50 years strokes in the young occurring below the age of 40 years is not uncommon. Before the advent of CT scan, it was thought that 75% of strokes are

ischemic and the rest hemorrhagic. Now it is realised that several pathological processes can lead to stroke. The etiology differs in the different age groups.

Causes of Stroke in Persons above the Age of 50 years

Atherosclerosis of the cerebral arteries; This accounts for the majority of cases, leisons may be in the intracranial portions of the arteries, particularly the striate branches of the middle cerebral artery and perforating branches of the basilar artery, or in the cervical portions of the internal Carotid and vertebral arteries. Atherosclerosis may be complicated by thorombosis, embolisation of subintimal plaques or haemorrhage. Platelet aggregates and atheromatous emboli arising from the carotid bifurcation are common causes of transient ischemic attacks (TIA) and further cerebral infarction. Cardiovascular sources of emboli account for a good number of ischemic strokes in elderly subjects.

All epidemiological study conducted by the Indian Council of Medical Research (ICMR) in 1986 revealed that the main risk factors are hypertension, tobacco smoking and low hemoglobin levels. The combination of hypertension and tobacco smoking increased the risk of stroke twenty times. Increase in the systolic and diastolic pressures correlate with the risk. Carotid and vertebral artery atherosclerosis is associated with hypercholesterolemia. In many of them atherosclerosis of the coronary and peripheral arteries also occurs. Other known risk factors are diabetes mellitus, dyslipidemias, obesity, polycuthemia and use of oral contraceptwc drugs.

Causes of Stroke in the Young

Nonspecific aortic arteritis which is common in India accounts for many cases. Endarteritis occurring in syphylis, meningitis, brain abscess and other infective conditions may be complicated by arterial thrombosis and cerebral infarction. Embolism complicating several cardiovascular diseases is a common cause.

CLASSIFICATION OF CEREBRO VASCULAR ACCIDENT

TIA - Transient Ischemic Attacks

It is an acute loss of focal cerebral or monocular functions, with symptoms lasting less than 24 hours - due to embolic or thrombotic vascular disease.

CT and MRl evidence of infarction in an area relevant to the symptoms.

(ii) A stroke or CVA is rapidly developing clinical symptoms or signs of focal and at times global (for patient in deep coma and no more with sub arachnoid haemorrhage) loss of cerebral functions, with symptoms lasting more than 24 hours or leading to death, mostly is due to Vascular origin. A number of TIA's may precede a stroke.

RIA - RIND - Reversible Ischemic attack or Revisible Ischemic neurological deficit.

It includes TIA's with mild ischemic strokes with no persisting neurological disability but has functional relevance.

FACTS ABOUT STROKE

STROKE - INCIDENCE

Due to cerebral infarction	-	80%
Due to Primary intra cerebral bleed (PICH)	-	10%
Due to Sub arachnoid Haemorrhage	-	5%
Due to uncertain cause	-	5%

EPIDEMIOLOGY

The epidemiology lagged behind that of coronory heart disease due to

1. Less frequent than coronary events.
2. Diagnosis still being a largely a matter of clinical skill without the help of many or any confirmatory investigation being disorder of late middle age and elderly where other diseases frequently co exists.

MORTALITY RATE

The mortality depends up on nature of cerebro vascular disorders.

It is highest in cases of Primary Intracerebral haemorrhages, higher in cases of sub arachnoid haemorrhage.

The fatal rate in cerebral infarction is due to multiple infarct and due to extension of infarction.

The mortality also co-exists with other conditions such as coronary heart disease, related disability and complications such as Pneumonia.

PREVALANCE

About 5/1000 of population may suffer from stroke, prevalence increases with age.

Males are prove to suffer from stroke man female at a higher incidence.

GEOGRAPHICAL DISTRIBUTIONS

Japan stroke is due to primary intra cerebral bleed.

India : Younger, population suffer from stroke duo to intra cerebral venous thrombosis than arterial occlusion.

South Asia : Stroke is prevalent and associated with high prevalence of coronary heart disease, obesity and Insulin resistant states.

Racial distribution : Blacks are affected more than white population.

Seasonal and diurnal variations : Incidence and mortality are high in winter due to effect of temperature, high B.P. and atmospheric pollution, chance of complications such a pneumonia.

DIURNAL VARIATION

Cerebral infraction	-	early hours of morning
Sub-arachnoid Haemorrage	-	during sleep
Primary Intra cerebral Haemorrage	-	during at a height sternous activity.

RISK FACTORS

FOR ISCHEMIC STROKE

Factors associated with an increased risk of Vascular disease Risk factors for cerebral infarction

age

male sex

blood pressure

smoking

blood lipids

diabetes mellitus

plasma fibrinogen

factor VII coagulant activity

oral contraceptives

haematocrit*

alcohol

Obesity and diet

race

snoring*

corneal arcus*

psychological factors*

hyperhomocystinaernia*

social deprivation

white blood cell count*

vasectomy*

serum albumin*

diagonal earlobe crease

physical inactivity

impaired ventilatory function

maternal history of stroke

Evidence of existing vascular disease

myocardiat infarction /angina

cardiac failure

heart rate*

left ventricular hypertrophy

Atrial fibrillation

peripheral vascular disease

cervical arterial bruit and stenosis

transient ischemic attacks

2. Vascular risk factors

Prevalence of vascular risk factors in stroke due to cerebral infarction.

Hypertension (BP>160/90 mm Hg × 2 pre-stroke

Angina and / or myocardial infarction

Current smokers*

Claudication and / or absent foot pulses

Major cardiac embolic source

Transient ischaemic attack

Cervical arterial bruit

Diabetes mellitus

For embolic stroke

Cardiac sources of embolism

Atrial fibrillation without rheumatic heart disease

Atrial fibrillation with rheumatic heart, disease

Any atrial fibrillation

Mitral incompetence

Recent myocardial infarction (6 weeks)

Prosthetic valve

Mitral stenosis

Paradoxical embolism

Any of the above

Any minor potential cardiac source of embolisms in aortic stenosis / sclerosis, mitral annulus calcification, mitral leaflet prolapse, aortic incompetence, cardiomyopathy.

Genetic factors contributing stroke

1. Familian Causes

Vascular anomalies	Vascular malformation, Saccular aneurysm, Hereditary haemorrhagic, telangiectasia
Connective tissue anomalies	Ehlers-Danlos syndrome pseudoxanthoma elasticum, Marfan's syndrome, Polycystic kidney disease, mitral leaflet prolapse.
Haematological diseases	Haemophilia and other coagulation factor deficiencies, Sickle-cell disease trait, Antithrombin III deficiency, Protein C deficiency, Protein S deficiency.
Others	Familial hypercholesterolaemia Cerebral amyloid angiopathy (Icelandic fom) Neurofibromatosis Tuberous sclerosis Homocystinaemia Fabry's disease Migraine Cardiac myxoma Mitochondrial cytopathy mitral leaflet prolapse

CAUSE OF STROKE

The following are causes of Cerebral ischemia and cerebral infarction due to Artherothromboemobolism.

Arterial wall disorders	Atherothromboembolism intracranial small vessel disease (lopohyalinosis, microatheroma) Trauma Dissection Fibromuscular dysplasia Congenital arterial anomalies Moyamoya syndrome Embolism from arterial aneurysms Inflammatory vascular diseases Binswanger's disease Irradiation Infections
Embolism from the heart Haematological disorders Miscellaneous conditions	pregnancy / puerperium oral contraceptives and other female sex hormones Drub abuse Cancer Migraine Inflammatory bowel disease Homocystinaemia Fabry's disease Mitrochondrial cytopathy Hypercalcaemis Hypoglycaemia Fibrocartilaginous embolism Snake bite Fate embolism Epidermal naevus syndrome Mephrotic syndrome

The relative importance of the causes of ischaemic stroke

Altherothromboembolism of cerebral arterial supply	50%
Intracranial small vessel disease (lipohyalinosis / microatherma)	25%
Embolism from the hear	20%
Miscellaneous and rare disorders	5%

Causes of injury of the arteries supplying the brain

Penetrating injury	Missile wounds
	Neck laceration
	Neck surgery
	Tonsillectomy
	Oral trauma
	Angiography
	Jugular vein cannulation
Non penetrating injury	Blow to the neck
	Carotid compression tests
	Attempted strangulation
	Neck injury (fracture, subluxation, dislocation)
	Sudden neck movements (whiplash, injury)
	head banging ceiling
	painting, head injury head,
	turning, minor falls)
	Neck manipulation
	Atlanto axial dislocation
	Occipito-atlantal instability
	Fractured base of skull
	cervical rib
	Fractured clavicle

Inflammatory vascular disease, contributing stroke.

Giant-cell arteritis

Takayasu’s disease

Systemic lupus erythematosus

Systemic vasculitis

Rheumatoid disease

Sjogren's syndrome

Behce's disease

Relapsing polychondritis

Progressive systemic sclerosis

Sarcoid angitis

Isolated angitis of the central nervous system

Malignant atrophic papuhsis

Buerger's disease

Haematological Disorders causing stroke

Polycythaemias

Essential thrombocythaemia

Leukaemia

Sickle-cell disease/ trait

Iron deficiency anemia

Paraproteinaemias

Paroxysmal nocturnal haemoglobinuria

Thrombotic thrombocytopenic purpura

Disseminated intravascular coagulation

Hypercoagulability

HAEMORRHAGIC STROKE

Causes of Haemorrhagic stroke

1. Within subarachnoid space	-	Sub arachnoid space
2. Within brain	-	Primary intra cerebral bleed
3. Within ventricles	-	ventricular haemorrhages
4. Within Sub dural space	-	Sub dural haemorrhages

Hypertension (chronic, acute)

Aneurysms

- Saccular
- atheromatous
- mycotic
- myxomatous
- dissecting

Vascular malformations

- arteriovenous
- venous
- cavernous
- telangiectasias

Cerebral amylod angiopathy

Vascular tumours contributing haemorrhage

melanoma

choriocarcinoma,

malignant astrocytoma

oligodendroglioma

medulloblastoma

haemangioblastoma

choroid plexus papilloma

hypernephrotna

endometrial carcinoma

bronchogenic carcinoma

- Drug abuse
- Infections
- herpes simplex teptospirosis
- anthrax
- Scorpion bite

Causes of Primary Intra Cerebral Haemorrhage

More common than Sub-arachnoid haemorrhage due to

Hypertension Vascular disease.

Vascular malformation

Saccular aneurysm

may be due to haemostatic effects due to anti-coagulant therapy therapeutic thrombolysis, Anti platelet drugs

Site of Haemorrhages

In Hypertensives, Haemorrhages may occur in Basal ganglia Thalamus and pons.

Lobar Haemorrhages are due to Vascular malformation, aneurysms haemostanic failure.

Specific causes of Intra cranial haemorrhages

Chronic hypertention

Aneurysms.

Aneurysms may associates with polycystic kidney disease.

Fibro muscular dysplasia, co-arctation of aorta, A-V malformation

Investigations in case of Stroke

investigation	Disorders detected
Pull blood count	Anaemia, polycythuemia, leukaemia, thrombocythaemia
ESR	Vasculitis, infective endocarditis, hyperviscosity
Plasma glucose	Diabetes, hypoglycaemia
Plasma cholesterol	Hypercholesterolaemia
Syphilis serology	Syphilis, anticardiolipin antibody

Urine analysis	Diabetes, renal disease
Electrocardiogram	Left ventricular hypertrophy, arrhythmia, conduction block, myocardial ischaemia or infarction

Non-routine investigations in TIA and ischaemic stroke patients

Investigation	**disorders detected**
Electrolytes	Hyponatraemia or hypokalaemia (if on iuretics)
Urea	Renal impairment (if hypertensive)
Thyroid function	Thyrotoxicosis (if in atrial fibrillation)
Chest X-ray	Enlarged heart, calcified value, pulmonary arteriovenous malformation
Cranial CT/MRI	Haemorrhage or infarct, structural lesion
Carotid ultrasound	Carotid stenosis
Echocardiography	Cardiac source of embolism
24 hours ECG	Cardiac arrhythmia
Activated thromboplastin time, anticardiolipin antibody, dilute	Antiphospholipid antibody syndrome Russell viper venom time.
Antinuclear antibodies	Systemic lupus erythematosus
Serum proteins, electrophoresis	Myeloma
Haemoglobin electrophoresis	Sickle cell trait / disease
EEG	Epileptic seizures
Protein C, protein S	Deficiency
Antithrombin III	Homocystinaemia
Plasma / urine amino acids	Neurosyphilis, multiple sclerosis
	Cerebrospinal fluid Neurosyphilis,multiple sclerosis, infective endocarditis
Temporal artery biopsy	Giant cell arteritis
Blood cultures	Infective endocarditis
Cardiac enzymes	Acute myocardial infarction

Complications

Systemic complications of acute stroke

Pneumonia

Venous thromboembolism

Urinary tract infection

Pressure sores

Cardiac arrhythmias, failure, myocardial infarction

Fluid imbalance, hyponatremia

Mechanical hyponatremia

spasticity

contractures

malalignment / subluxation / frozen shoulder

falls and fractures

osteoporosis

ankle swelling

pressure palsies

Mood disorders

Seizures

Gastric stress ulceration

Intracranial venous thrombosis

It is necessary to know that about intracranial venous thrombosis which also contributes Neurological Deficit Seldom like a Stroke.

Causes of intracranial venous thrombosis

Local conditions affecting the cerebral veins and sinuses directly

head injury (with or without fracture)

intracranial surgery

local sepsis (sinuses, ears, mastoids, scalp, nasopharynx)

Subdural empyema

bacterial meningitis

meningovascular syphilis

dural and cerebral arteriovenous malformations

tumour invasion of dural sinus (malignant meningitis, skull base secondary, etc.)

catheterisation of jugular vein

Systemic disorders

dehydration, hypernatraemia

septicaemia

pregnancy and the puerperium

oral contraceptives

haematological disorders

INVESTIGATIONS OF MOTOR FUNCTIONS

A patient who can walk and move his upperlimbs freely, is not suffering from any gross paralysis. Investigation for paralysis of weakness of different groups of muscles should be made, when necessary. The degree of co-ordination of muscular action is next determined. The patient is asked,

1. To Extend his arm and then to bring his forefinger to the tip of his nose keeping his eyes closed, in the presence of in co-ordination, he will not be able to do this.
2. Walking along a straight line is difficult if there is in co-ordination.
3. Rapid movements of pronation and supinalion of the forearm with the elbow at a right angle are either not possible for slow in cases of cerebellar lesions.
4. The patient is asked to stand with his feet close together. He stretches out his arms and then close his eyes. If he sways then Romberg's sign is positive.

Gait

Gait of a patient is observed on the following points

1. Ask him to walk normally and then study
2. Ask him to walk on a straight line
3. In case of any deviation note the side
4. In case of fall note the side
5. Whether he has any of by the typical gaits

For the investigation of motor system, the involuntary movements and their clinical types are studied.

INVESTIGATIONS OF SENSORY FUNCTIONS

(A) SUPERFICIAL SENSATION

1. Touch: Tested by a cotton wool touched lightly to the skin it is either normal, hypoesthesia or hyperesthesia
2. Temperature: Hot and cold sensations are tested, separately.
3. Dissociated anaesthesia : Loss of pain and temperature Sensation with preservations of touch.
4. Tactile extinction: Two stimuli applied on two identical points of body on either side of body shows the affected side failing to appreciate touch.
5. Graphaesthesia: Patients eyes closed. Figures drawn by a blunt point on skin should be recognisad by patient normally.

b) Deep Sensation

1. Joint sense : with eyes closed and patient in relaxed state, his toe or thumb is passively moved up and down at the terminal joint and her is asked to recognise position. Involved in posterior column disease.
2. Sense of position and passive movement: Patient's eyes closed, his any extremity is moved and kept in a particular position, and he is asked to repeat the same with the order limb involved in the lesions of sensory motor cortex.

3. Deep pressure pain.
4. Vibration sense is tested against any bony prominence involved in disease of the posterior column.
5. Weight sense recognizing weight of two objects in two palms. The object has same shape but different weights.

Stereogenosis

Recognizing an object by feel only. Involved in lesions of pose central gyrus, subcortial parietal region, thalamus, or the lower part of the medulla.

Reflexes

In lesion of the pyramidal system all deep tendon reflexes are exaggerated, sometimes so much that a clonus can be elicited.

The superficial or skin reflexes are diminished or absent oraltered in plantar reflex.

Gradation of the Reflexes

Grade	:	0 Absence
Grade	:	1 Present
Grade	:	2 Brisk
Grade	:	3 Very Brisk
Grade	:	4 Clonus

Method

A. Biceps jerk :- (C_5 C_6)

Grasp the patients elbow with the left hand so that the thumb rests on the biceps tendon. A tap on the examiner's thumb elicits contractions of the biceps.

B. Triceps jerk :- (C_6C_7 & C_8)

A tap just above the olecranon with the elbow flexed will bring about contraction of the tripceps.

C. Knee jerk

The patient should sit with one knee crossed over the other or if he is unable to sit, the flexed knee is allowed to rest on the clinician's hand. Now a sharp blow on the ligament patellae with the edge of the hand or with a percussion hammer will elicit a brisk contraction of the quadriceps, the leg being extended with a jerk

D. Ankle jerk

The foot is dorsiflexed slightly so as to put the tendo achillis on the stretch. A gentle stroke on the back of the tendon leads to a momentary contraction of the calf muscles as evidenced by a sharp plantar flexion of the foot.

E. Ankle Clonus

The Patient's knee is slightly flexed and the leg is supported with one hand, while the other hand over the sole of the fore foot makes sudden dorsi flexion of the foot. The foot will be set oscillating if slight pressure on the sole is maintained, this is pathognomonic of lesions of pyramidal system.

F. Plantar Reflex (L_5- S_1)

The inner or the outer border of foot is scratched with a pin. Normally the great toe is flexed, but in the lesions of the pyramidal tract and in infants (in whom the tract is not yet myelinated) the great toe will be extended. (Babinski’s sign)

G. Cremastric Reflex (L_1)

This is elicited by scratching the skin at the upper and inner part of the thight when the testis will be drawn upwards.

H. Abdominal Reflexes

These are elicited by stroking the abdominal muscles. These reflexes are abolished in lesions of the pyramidal tract.

The Cornel reflex

Use a wisp of cotton. The patient looks to oneside. The examiner comes from the other side. Touches the cornea at its junction with the sclera. Look for blinking on the same side and on the opposite side.

Deep tendon reflexes

Reflex	Nerve	Mode of elicitation	Response
Biceps C 5-6	Musculo	Blow upon the biceps tendon	Flexion of the elbow
Supinator C 5-6	Radial	Blow upon the tendon of brachioioradialis at the distal end of the radius	Flexion of the forearm with supination
Triceps C 7-8	Radial	Blow upon the tricep tendon	Extension of the arm
Finger flexion C 7-8	Median and ulnar	Blow upon the quadriceps tendon	Extension of the knee
Knee L 2-4	Femorial	Blow upon the quadrices tendon	Extension of the knee
Ankle S 1-2	Sciatic	Blow upon the tendo-calcaneous	Plantar flexion of the ankle

Gradation of muscle power

Grade : 0 Complete paralysis

Grade : 1 Ficker of contraction

Grade : 2 Contraction with gravity eliminated

Grade : 3 Contraction against gravity alone

Grade : 4 Contradiction against gravity and some resistance

Grade : 5 Contraction against powerful (normal power) resistance.

Co ordination of the Limbs

In Upperlimbs

A. The Finger nose test

1. Patient holds the arm outstretched and abducted to 90° at the shoulder.
2. He touches the tip of his nose with the tip of his index finger.
3. The finger is held on to the nose.

In lower limbs

The Heel Knee test

1. One heel is held on the opposite knee.
2. The heel is slided accurately down the front of the shin to the ankle and back again.

In sensory ataxia, this in co-ordination worsens with the eyes closed. In cerebellar ataxia, there will be no difference. Note the smoothness of the movement, steadiness of the limbs and the case with which the test is performed.

MATERIALS AND METHODS

SELECTION OF CASES

The clinical study on "Patchavatham" was done by the author in the Post-Graduate Department of Sirappu maruthuvam at Governement Siddha Medical College Hospital, Palayamkottai. Accordingly Twenty Four patients out of both sexes and varying age groups were selected twenty patients in the P.G Department of sirappu maruthuvam under the supervision of Professor and Lecturer and treated in In-Patient ward for study. Another twenty five patients also treated with the trial drug in the Out-Patient ward.

All the cases were carefully and thoroughly examined at the time of admission. Besides an individual case sheet was maintained for each patient in the In-Patient ward. All the patients were advised to come to the Out-Patient ward for further follow-up.

EVALUATION OF CLINICAL PARAMETERS :

During admission the patients were subjected to careful history taking. The clinical symptoms,

1. Inability to use the one half of the body.
2. Muscle wasting in the affected side
3. Dystrophy due to disuse.
4. Heaviness of the limbs in the affected side.
5. Mental depression
6. Giddiness
7. Excess thirst
8. Dryness of lips and tongue
9. Recurrent cram press
10. Burning sensation of the eyes.
11. Tingling sensation over the affected area
12. Difficulty in speaking
13. Constipation were also taken as criteria for the selection of patients.

The history had been collected from the patients about.

1. Occupation
2. Diet habits
3. Personal habits
4. Family history
5. Socio-economic status
6. Physiological condition
7. Exposure to cold
8. Infective diseases,
9. Trauma
10. Hereditary Diseases
11. Metabolic disorders (Diabetes mellitus etc.,)

MODE OF DIAGNOSIS :

The diagnosis is made by the following siddha basic principles.

1. நிலம்
2. பருவக்காலம்
3. தேகநிலை
4. பொறியால் அறிதல்
5. புலனால் அறிதல்
6. வினாதல்
7. முக்குற்ற நிலை
8. உடல் தாதுக்கள் நிலை
9. எண்வகை தேர்வுகள்

And the diagnosis “Patcha vaadham” was obtained which correlates with the modern entity “Hemiplegia” by the physical examination of the patient and with the some patient CT scan and MRI reports.

CLINICAL LABORATORY INVESTIGATIONS :

The following investigations were also done to confirm the diagnosis and to follow the progress of the patient.

1. BLOOD TESTS

WBC - Total Count

Differential Count

Erythrocyte sedimentation Rate

Hemoglobin estimation

Blood sugar

Blood Urea

Lipid profile

Serum cholesterol

Bleeding time

Clotting time

2. URINE ANALYSIS

Albumin

Sugar

Deposits

3. MOTION TEST

Ova

Cyst

4. RADIOLOGICAL INVESTIGATION

X-RAY Chest PA View

Computerized Tomography - Brain (Plain)

Computerized Tomography - Brain (Contrast)

Magnitude resonance imaging

Electro Encephalo Gram

Angiogram

ADMINISTRATION OF TRIAL DRUGS

The patients were treated with the trial drugs,

1. Vallathagi chenduram twice a day after meal internally with honey and
2. Mashathy thylam was given for external application over the affected area.

To the some patients Murukkan viththu mathirai 1 in the early morning was given as purgative according to the condition of the body, one day previously before starting the treatment. When ever the patients complained of constipation Nilavaagai chooranam 5 mg at bed time with hot water was given at night.

Bio-Chemical analysis of the Trial drug was done in the Department of Bio-Chemistry at Government Siddha Medical College, Palayamkottai.

Pharmacological analysis of the trial drugs was done in the department of pharmacology, Government Siddha Medical College, Palayamkottai.

At the time of discharge, all the patients were advised to follow this Treatment and attend the out-patients department for the follow- up study.

OBSERVATION AND RESULTS

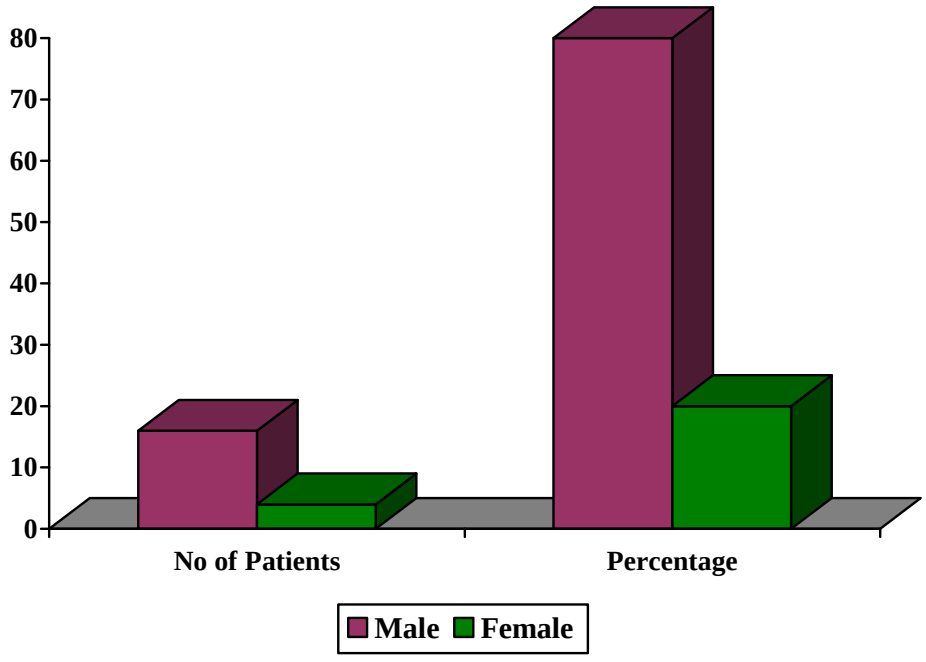
1. Incidence of Patchavaatham - in patient

Among the twenty patients of varied etiology who were admitted in the In-Patient ward for study the incidence is Sixteen patients in males (80%) and Four patients in females (20%)

In the Out-Patient ward, the incidence is 90% in males and 10% in females.

Table - 1

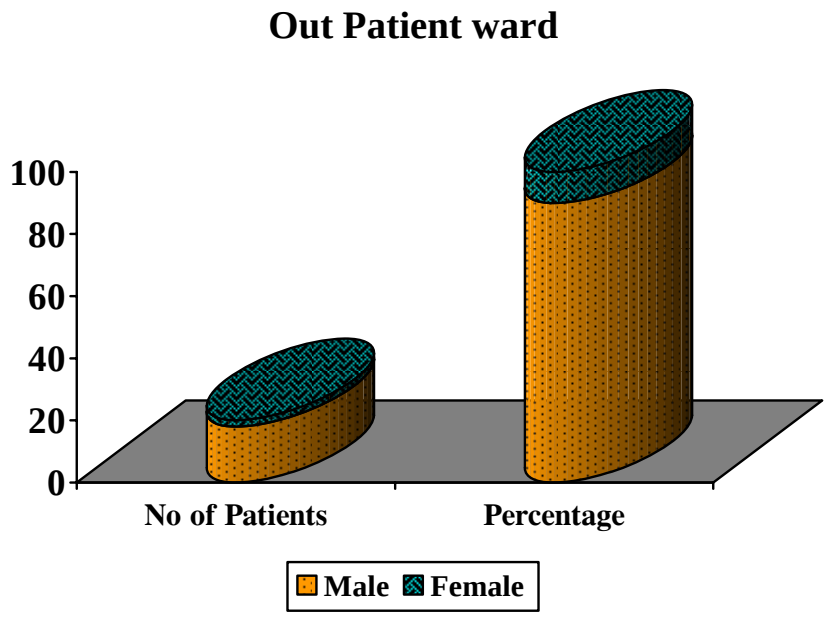
S.No	Sex	No. of Patients (In In-Patient ward)	Percentage
1	Male	16	80%
2	Female	4	20%



2. Incidence of Patchavatham - out patient

Table - 2

S.No	Sex	No. of Patients (In Out-Patient ward)	Percentage
1	Male	18	90%
2	Female	2	10%



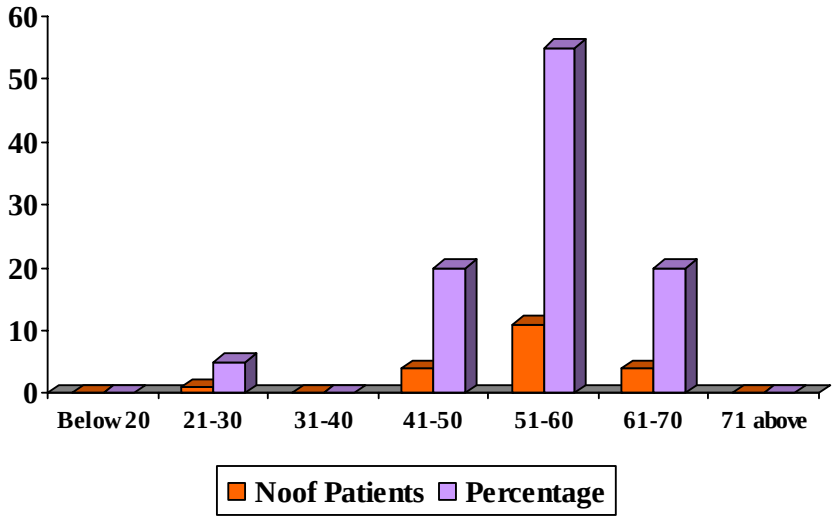
3. AGE INCIDENCE

Among the twenty patients the highest incidence was in the age group of 51-60 years (55%). One patient belonged to the age group of below 30 years (5%). Eleven patients to the age group of 51-60 years (55%) four patients to the age group of 61-70 years (20%). Four patients to the age group of 41-50 years (20%).

Table - 3

S.No	Age (In Years)	No. of Patients	Percentage
1	Below 20	-	-
2	21- 30	1	5%
3	31- 40	-	-
4	41- 50	4	20%
5	51- 60	11	55%
6	61- 70	4	20%
7	71 and above	-	-

Graph Illustrating the Reference to Age

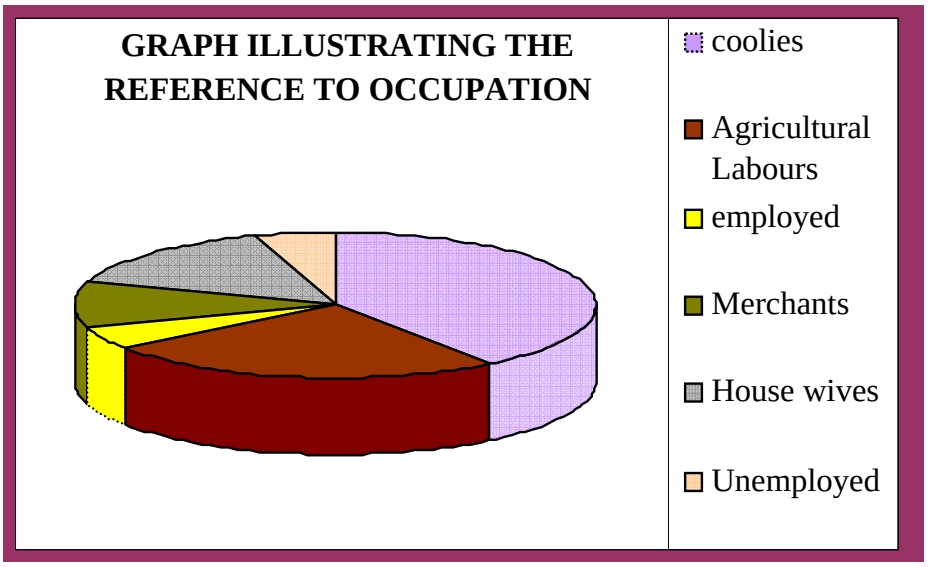


4. OCCUPATION

Eight male patients were coolies (40%), five agricultural labours (25%), one employed (5%), two merchants (10%), two house wife (15%) and one unemployed (5%) during incidence.

Table - 4

S.No	Occupation	No. of Patients	Percentage
1	Coolies	10	50%
2	Agricultural Labours	3	15%
3	Employed	1	5 %
4	Merchants	2	10 %
5	House wives	3	15 %
6	Unemployed	1	5 %



5. SOCIO - ECONOMICAL STATUS

The majority of the patients about seventeen belonged to economically middle class (85%), two patients belonged to low class (10%) and one patient belonged to the high class.

Table - 5

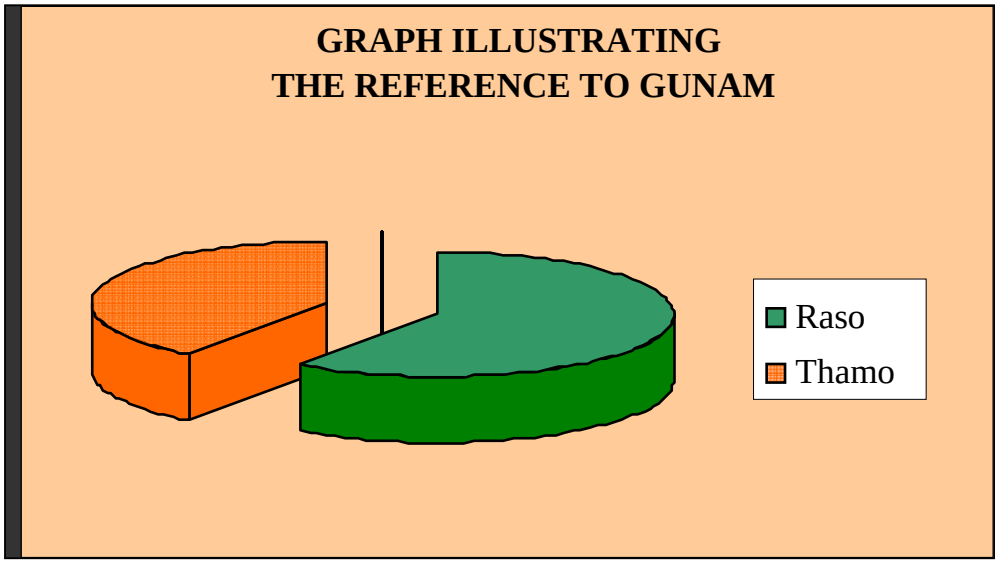
S.No	Economical Status	No. of Patients	Percentage
1	Low Class	6	30%
2	Middle Class	13	65%
3	High Class	1	5%

6. REFERENCE TO GUNAM

Twelve patients with Rajo gunam formed the highest incidence (60%) and remaining eight patients had Thamo gunam (40%)

Table - 6

S.No	Gunam	No. of Patients	Percentage
1	Saththuvam Gunam	-	-
2	Raso Gunam	12	60%
3	Thamo Gunam	8	40 %

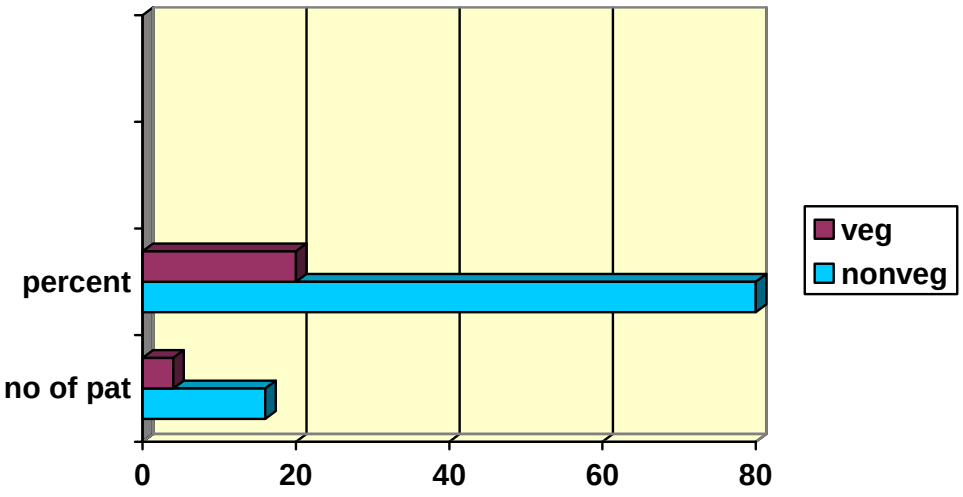


7. REFERENCE TO DIET

Among the twenty patients, Nineteen patients were Non vegetarian (95%) and one patient was Vegetarian (5%)

Table - 7

S.No	Diet	No. of Patients	Percentage
1	Non Vegetarian	16	80%
2	Vegetarian	4	20%



8. PATHOLOGICAL HISTORY REFERENCE

All patients are having no related Pathological conditions in this disease (100%)

Table – 8

S.No	Pathological	No. of Patients	Percentage
1	Positive	0	-
2	Negative	20	100%

9. DISTRIBUTION ACCORDING TO MUKKUTRA KAALAM

Among twenty patients, one patient belonged to the Vaadha kaalam during 1-33 years (5%). Fifteen patients under study belonged to the piththa kaalam during 34-66 years (75%) and four patients belonged to the kabha kaalam during 67-100 years (20%)

Table – 9

S.No	Kaalam (Age)	No. of Patients	Percentage
1	Vaadha Kaalam (1- 33 yr)	0	0%
2	Piththa Kaalam (34 - 66 yr)	16	80%
3	Kabha kaalam (67 - 100 yr)	4	20%

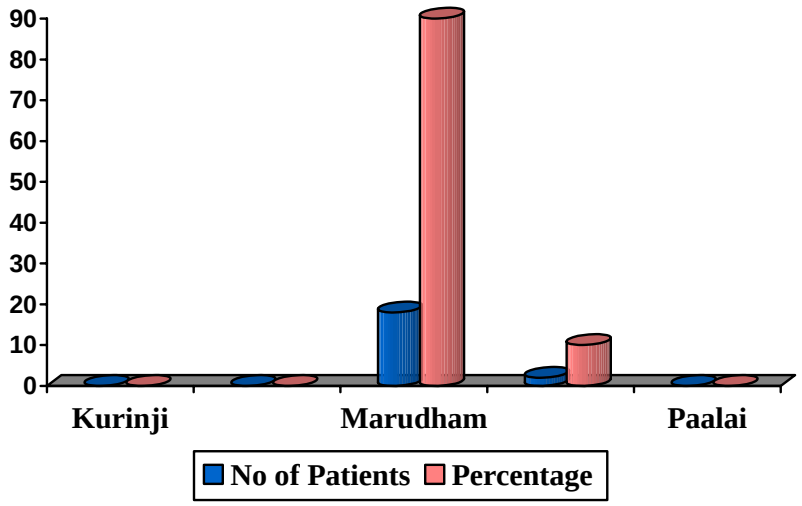
10. THINAI (OR) LAND INCIDENCE

Among the twenty patients, Eighteen patients hailed from Marudham (90%) and two patients from Neidhal (10%)

Table - 10

S.No	Thinai (or) Land	No. of Patients	Percentage
1	Kurinji	-	-
2	Mullai	-	-
3	Marudham	18	90%
4	Neidhal	2	10%
5	Paalai	-	-

Graph Illustrating The reference to Thinai (or) land



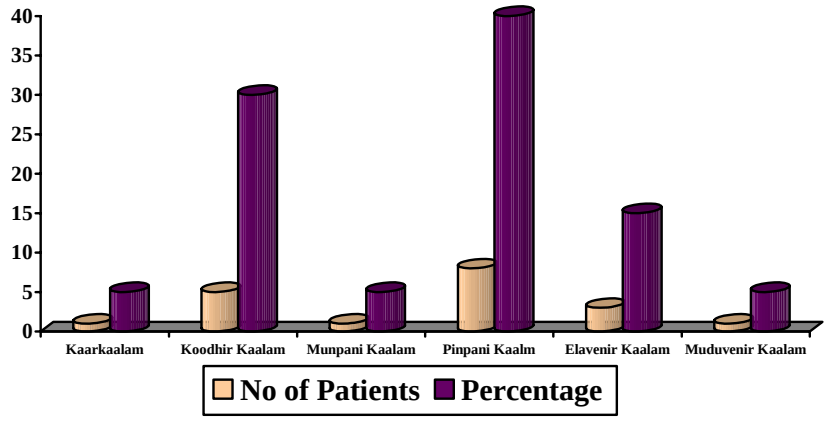
11. SEASONAL (PARUVA KAALA) INCIDENCE

Out of Twenty patients, one patient were affected during kaar kaalam (5%), Six patients during Koothir Kaalam (30%), One patients during Munpani kaalam (5%) Eight patient during Pinpani kaalam (40%) Three patients during Elavenir Kaalam (15%) and one patient during Mudhuvenir kaalam (5%)

Table - 11

S.No	Paruva kaalam (Seasons)	Month	No. of Patients	Percentage
1	Kaar kaalam	Avani, Purattasi 15th August to 14th October	1	5%
2	Koodhir kaalam	Ippasi, Kaarthigai 15th October to 14th December	8	40%
3	Munpani kaalam	Maargazhi, Thai 15th December to 14th Feburary	1	5%
4	Pinpani kaalam	Maasi, Panguni 15th February to 14th April	6	30%
5	Elavenir kaalam	Chiththirai, Vaigaasi 15th April to 14th June	2	10%
6	Muduvenir kaalam	Aani, Aadi 15th June to 14th August	2	10%

Graph Illustrating The reference to Seasonal incidence



12. INCIDENCE OF PATCHA VAADHAM ACCORDING TO THE SIDE EXISTS

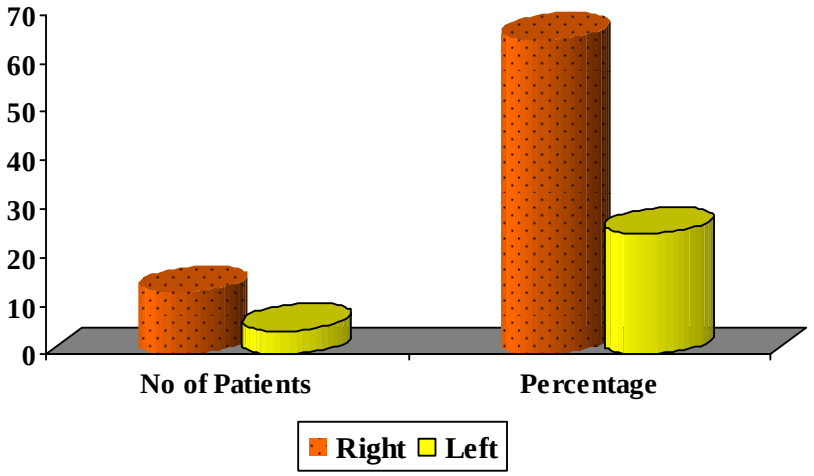
Among the twenty patients, the right side was affected in male sixteen patients (80%) and left side was affected in male four patients (20%)

Male

Table - 12 (1)

S.No	Affected side	No. of Patients	Percentage
1	Right	16	80%
2	Left	4	20%

Male patients

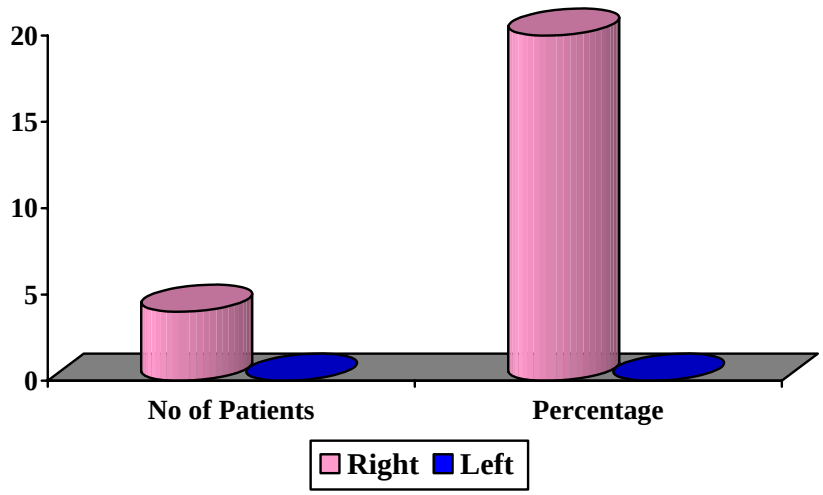


Among the 20 patients two female patients affected in right side only Female

Table - 12 (2)

S.No	Affected side	No. of Patients	Percentage
1	Right	4	20%
2	Left	-	-

Female patients



13. INTEREST TO THE SIDDHA TREATMENT AFTER STROKE

Among twenty patients, only three patient (15%) was admitted for siddha system of treatment immediately after stroke, ten patient's were admitted after 1-3 months (50%), two patients admitted after 3-6 months (10%), one patients admitted after 6-9 months (5%), One patients admitted after 9-12 months (5%), one patient admitted after 1-2 years (5%) and two patients admitted after 2-3 years (10%), of stroke.

14. DURATION OF ILLNESS AT THE TIME OF ADMISSION

At the time of admission among the twenty patients, sixteen patients had been suffered below 1 year (85%), two patients from 1 to 2 years (05%) and two patients from 2 to 3 years (10%)

Table - 14

S.No	Duration of Illness (In years)	No. of Patients	Percentage
1	3-4	-	-
2	2-3	2	10%
3	1-2	1	5%
4	Below 1	17	85%

15. PRECIPITATING FACTORS

In the twenty patients, Hypertension was the precipitating factor in six patients (30%), two patients only diabetic, trauma and twelve patients having other complaints. (60

Table 15

S.No	Precipitating Factors	No. of Patients	Percentage
1	Hypertension	4	20%
2	Syphilis	-	-
3	Diabetes mellitus	4	20%
4	Trauma	-	-
5	Cerebral tumour	-	-
6	Miscellaneous	12	60%

DISCUSSION

“Patcha vaadham” which can be more or less correlated with "Hemiplegia" on par with modern medicine is one of the vaadha disease affecting the one half of the body and interfering with the functions of upper and lower limbs of one side and may associate with cranial nerves or not. The only literary evidence of this disease is found in the classification of Vaadha diseases in Yoogi Vaidhdhiya Sindhamani Perunool - 800 which gives the etiology and the clinical features also.

This dissertation work includes a literary collection of views both siddha and modern aspects of this disease. For the clinical study 20 patients were diagnosed clinically in the out patient department as "Patchavatham" as per the symptamatology and the Envagai thervugal and other siddha methods of diagnosis were selected and admitted In patient ward.

On the day of admission routine lab investigations (Blood, and Urine tests), radiological investigations, general and systemic examinations, Neerkuri and Neikuri were done in all 20 patients in both siddha and modern aspects. An individual case sheet was prepared and maintained to all the patients.

On early morning the next day of admission Murukkan viththu Pill 1 was given as the initial treatment of vaadha diseases for neutralizing the vitiated vaadham to some patients.

The internal medicine Valladhagi chenduram100mg a day after meals with hot water and the external medicine, Mashathythylam for the external application on the affected with Thokkanam and varmam were given to all patients regularly according to the blood pressure and temperature. All the patients were advised to follow the paththiyam and some patients were advised to yogaasanam, piraanaayaamam and thiyaanam as supportive therapies.

Another 20 patients were also treated with the trial drugs in the Out patient department.

A. According to siddha lieratures common causes given by various authors were lifting or carrying heavy loads, exposure to chillness, excessive intake of fruits and tubers, drinking raw rain water, excessive intake bitter, astringent and pungent tastes and getting angry. Regarding the etiology of hemiplegia in modern medicine trauma, hypertension, brain tumours and infections. From the etiology of Patchavatham given by siddha and modern literatures the exaggerated vaadham affects the arteries by narrowing them and affects the nerves causes Patchavatham.
B. Pre disposing, factors like exposure to cold, occupation, physical stress, trauma, age factor, hypertension, diabetes mellitus, brain tumour infectious diseases and epilepsy.

1. INCIDENCE OF PATCHAVATHAM

Among the 20 patients of varied aetiology who were admitted in the In-Patient ward for study the incidence is sixteen patients in males (80%) and four patients in females (20%)

In the Out-Patient ward, the incidence is 90% in males and 10% in females.

2. AGE INCIDENCE

Among the 20 patients the highest incidence was in the age group of 51-60 years (55%). Two patients belonged to the age group of 31-40 years (10%). Four patients to the age group of 41-50 years (20%) eleven patients to the age group of 51-60 years (55%) and four patients to the age group of 61-70 years (20%)

3. OCCUPATION

Six male patients were coolies (30%), Four agricultural Farmer (20%), two metal workers (10%), three merchants (15%), six house wives (30%) and one was employed (5%) during incidence.

4. SOCIO - ECONOMICAL STATUS

The majority of the patients about fifteen belonged to economically middle families (75%) , three patients belonged to high class (15%) and two(10%) patient belonged to the poor .

5. REFERENCE TO GUNAM

Five patients with Rajo gunam formed the highest incidence (25%) and remaining fifteen patients had Thamo gunam (75%)

6. REFERENCE TO DIET

Among the twenty patients, eighteen patients were Non-Vegetarian (90%) and two patients were Vegetarians, (10%)

7. FAMILY HISTORY REFERENCE

Out of twenty patients, two patients were having the positive family history (10%) and remaining eighteen patients were having negative family history (90%).

8. DISTRIBUTION ACCORDING TO MUKKUTRA KAALAM

Among twenty patients, two belonged to Vaadha kaalam during 1-33 years. Sixteen patients under study belonged to the Piththa Kaalam during 34-66 years (75%) and four patients belonged to the kabha kaalam during 67-100 years (20%).

9. THINAI (OR) LAND INCIDENCE

Among the twenty patients, Eighteen patients hailed from Marudham (90%), two patients from Neidhal (10%).

10. SEASONAL (PARUVA KAALA) INCIDENCE

Out of Twenty patients, one patient were affected during kaar kaalam (5%), six patients during koothir kaalam (30%), one patients during Munpani kaalam (5%) eight patient during pinpani kaalam (40%) three patient during Elavenir kaalam (50%) and one patient during Mudhuvenir kaalam (5%)

11. INCIDENCE OF PATCHA VAADHAM ACCORDING TO THE SIDE EXISTS

Among the twenty patients, the right side was affected in thirteen patients (65%) and left side was affected in five patients (25%)

12. INTEREST TO THE TREATMENT AFTER STROKE

Among twenty patients, two was admitted for siddha system of treatment immediately after stroke, twelve patients were admitted after 1-3 months (60%), two patients admitted after 4-6 months (10%), Two patients admitted after 1-2 years (10%), two patients admitted after 2-3 years (10%), of stroke.

13. GRADATION OF RESULT ON PATCHAVATHAM

According to the prognosis of the Patchavatham, among the twenty patients, Good clinical result was seen in twelve patients (60%) Moderate clinical result was seen in three patients (15%) and partial improvement in one patients (5%)

14. DURATION OF ILLNESS AT THE TIME OF ADMISSION

At the time of admission among the twenty patients, sixteen patients had been suffered below 1 year (80%), 2 patients from 1 to 2 years (10%), 2 patients from 2 to 3 years (10%)

15. PRECIPITATING FACTORS

In the twenty patients, Hypertension was the precipitating factor in seventeen patients (85%), one patient had both Hypertension and Diabetes (5%) and two patients was diabetic (10%)

16. DISTRIBUTION ACCORDING TO THE TOTAL NO. OF DAYS TREATED

Among the Twenty patients, eleven patients were treated for 31 to 40 days (55%) two patients for 41-50 days (10%) three patients for above 50 days (15%)

17. CLINICAL PRESENTATION

All the patients admitted in the ward were carefully examined. The signs and symptoms of all patients were noted. Among twenty patients the difficulty to use left upper limb and lower limb was noted in nine patients (45%), the difficulty to use right upper limb and lower limb was noted in eleven patients (55%), the deviation of mouth was noted in twenty patients (100%), Drolling of saliva was noted in eleven patients (55%), difficulty in speaking was noted in all patients (100%), difficulty in swallowing was noted in one patient (5%), The breathlessness was noted in three patients (15%), the excessive thirst was noted in one patient (5%), frequency of micturition noted in three patients (15%), burning sensation all over the body was noted in fourteen patients (70%), past history of similar episode noted in two patient (10%), loss of weight noted in one patients (5%), giddiness noted in fourteen patients (70%), circumduction gait found in all patients (100%), clubbing had seen in two patients (10%), pedal oedema noted in two patients (10%), normal higher intellectual function seen in all the twenty patients (100%), constipation was complained in one patient (5%), mental depression was noted in seven patients (35%), pain in the joints was complained in all patients (100%), raise in the temperature was noted in one patient (5%), loss of appetite seen in three patients (15%), cough noted in three patients (15%) and tiredness seen in ten patients (50%).

18. CONDITIONS OF UYIR THAADHUKKAL

1. Vaadham

1. Among the twenty patients, three patients indicated breathlessness (15%), in one patient (5%) derangement of abaanan was observed as constipation.
2. Derangement or viyaanan was noted in all patients by the resulted movements of one side limbs and nutritional changes of the muscles (100%).
3. Derangement of udhaanan was noted in three patients (15%) having cough.
4. Derangement of samaanan was invariable in all the patients due to the derangement of other vaayus (100%)

5. Naagan was noted to be deranged in seven patients who were mentally depressed (35%)
6. Koorman was normal in all patients (100%)
7. Kirugaran was found to be deranged in eleven patients as evidenced by Drolling of saliva (55%)
8. Derangement of dhevaththathan was found in all the patients as indicated by lethargy or disturbed sleep rhythm (100%)

2. PITHTHAM

1. The conditions of piththam with reference to its five types were studied in all patients.
2. Anar piththam was noted to be deranged in three patients as evidenced loss of appetite (15%)
3. Ranjaga piththam was found to be deranged normal in all patients, no evidenced by low Hb% in blood.
4. Piraasaga piththam was found be normal in all the patients.
5. Alosaga piththam was normal in all patients. No evidenced for diminished vision.
6. Saadhaga piththam was found to be deranged in all patients evidenced by difficulty in attending their regular duties (100%).

3. KABHAM

1. The conditions of kabham were studied with reference to five kabham.
2. Deranged avalmbagam was noted in three patients with symptoms of cough and expectoration (15%)
3. Derangement of kiledhagam was noted in eleven patients with symptoms of Drolling of saliva (55%)
4. Pothagam was found to be normal in all twenty patients.
5. Derangement of tharpagam was noted in fourteen patients who had burning sensation of eyes and all over the body.
6. Sandhigam was found to be deranged in all patients with joint pain (100%)

20. CONDITIONS OF UDAL THAADHUKKAL

1. In all twenty patients, saaram was affected as evidenced by tiredness, lethargic and mentally depressed (100%)
2. Senneer was normal in all the patients
3. Oon was affected in all the patients as evidenced by muscle weakness (100%)
4. Kozhuppu was affected in all patients as evidenced by the difficulty of the half of the body movements.
5. Enbu was affected in all patients as evidenced by immobilization of joints (100%)
6. Moolai was affected in five patients evidenced by feeling of heaviness of the body (25%)
7. Sukkilam / Suronidham was normal in all twenty patients (100%)

21. PORIGALUM PULANGALUM

1. Mei (skin) was found to be normal in all patients
2. Vaai (mouth) was affected in all patients evidenced by the elevation of the mouth.
3. Mookku (nose) and sevi (ear) were found to be normal in all patients

22. ENVAGAI THERVUGAL

1. Naa was normal all patients 100% and the sense of taste was found to be normal
2. Niram was found normal in all patients
3. Mozhi was affected in all the patients as evidenced by difficulty in speaking (100%)
4. Vizhi was normal in all patients in five patients as evidenced by the presence of diminished vision (25%)
5. Sparisam was affected in all the patients as evidenced by muscle weakness (100%)
6. At the time of admission in all patients had no constipation (100%). The colour and smell of stools are found to be normal in all patients.

7. In neerkuri, edai of the mooththiram was affected in eleven patients by the evidence of puscells in mooththiram (55%)
8. The enjal was affected in three patients evidence of frequent micturition (15%)

In neikuri the oil drop in urine,

a) Lengthens like snake in one patients - vaadhaneer 5%
b) Spreads like ring in four patients - piththaneer 20%
c) Appearing like pearl in fifteen patients - kabhaneer 75%
d) Niram was affected in two patients evidenced by thick yellow colour
e) The manam and nurai were found to be normal in all the patients.

23. NAADI NADAI

Naadi was affected in ten patients (50%) as evidenced by vaadham in seven patients (35%), vaadha kabham in three patients (15%)

OBSERVATION OF CLINICAL LABORATORY INVESTIGATIONS

At the time of admission routine laboratory investigations like Blood test, (WBC, Total count, Differential Count, Erythrocyte sedimentation Rate, haemoglobin level, sugar, urea, bleeding time, clotting time & PTT) and urine analysis were done properly.

HAEMATOLOGICAL STUDIES

1. OBSERVATION OF HAEMOGLOBIN CONTENT

The haemoglobin level (Hb%) was increased in almost all the patients. In two patients (10%) the Hb% was ranged from 10% to 20%.

2. LEUCOCYTES TOTAL COUNT

Total WBC count was above 8000/ cumm in all the patients. In seveneen patients it was ranged from 8000 to 10000 / cumm and in three patients it was ranged from 10000 to 12000 / cumm

3. WBC - DIFFERENTIAL COUNT

Polymorphs and lymphocytes counts are normal in all twenty patients. Eosinophil count was normal in all patients.

4. ERYTHROCYTE SEDIMENTATION RATE

Among the twenty patients the ESR was increased in two patients (10%) and it was showing to be normal in eighteen patients upto 30 to 40 mm / hr.

5. OBSERVATION OF BLOOD SUGAR

The random blood sugar was observed in all twenty patients it seemed to be normal in seventeen patients (85%) and it slightly increased in two patients (10%)

6. OBSERVATION OF BLOOD UREA

The blood urea was observed in all twenty patients it seemed to be normal in all patients (100%)

7. OBSERVATION OF SERUM CHOLESTEROL

The serum cholesterol was observed in all twenty patients it seemed to be normal in eighteen patients (90%) and it slightly increased in two patients (10%)

8. URINE ANALYSIS

For the analysis of urine in twenty patients, albumin was absent in all patients, sugar present in two patients (10%), pus and epithelial cells present in nine patients (45%)

9. MOTION ANALYSIS

No ova and cyst were found to all the twenty patients in motion analysis.

TREATMENT

The trial drugs were administered to the patients from the time of admission in the in-patients ward and continued till symptoms were reduced. Hence, Patchavatham is a vaadha disease with nerve paralysis and so, the treatment aimed at providing relief from the symptoms and so, the treatment aimed at providing relief from the symptoms and slowing down the associated difficulties and control the predisposing factors.

The internal medicine, Valladhagi chenduram and the external application of Mashathythylam with slight Thokanam and Varmam at the affected side were given depending upon the severity of the disease and the condition of the patient. Within this period most of the symptoms were relieved and the patients were more satisfied gradually. During those days some patients were advised to do Yogaasanam, Piraanaayaamam and Thiyanam as supportive therapies. They had satisfaction and quick relief than the others.

All the patients were also advised to observe paththiyam (Dietary and other restrictions) But, all aspects of Paththiyam could not be imposed in the In-patients ward for practical difficulties.

PROGNOSIS

According to the clinical condition, the patients were graded into mild, moderate and severe categories for practical purposes and convenience. The

patient reported satisfactory improvement as certain degree of relief from difficulties within 15 days from the commencement of the treatment. In mild cases good relief was reported within 10 days of the treatment, in moderate cases within 20 days and in severe cases within 25 days.

The patients who were also treating with Thokkanam, Varmam, Yogaasanam, Piranaayaamam and Thiyaanam as supportive therapies along with main therapy were got good and quick relief than the other patients.

Out of twenty patients

1. Good relief (Normal blood pressure, controlled blood sugar, no Drolling of saliva, no giddiness, fluent speech and improvement in using the affected side) was reported in 13 patients.
2. Moderate relief (Normal blood pressure, control of blood sugar, reduced Drolling of saliva, reduced difficulty in speaking and occasional giddiness) was reported in 2 patients.
3. Partialy improvement (Normal blood pressure, and Normal blood sugar, reducing Drolling of saliva and normal speaking was improved. But no effect in affected limbs) was reported in five patients.

Exercises to hands and legs were also advised to all patients.

The another twenty patients who were treated in the Out-patients ward also got good relief. They were also treated by special medicines and advised to do exercise.

No toxic or side effects were clinically and reportedly observed in any patient during the courses of the treatment.

SUMMARY

The research work on “PATCHA VATHAM” was chosen with an intention to give solace to the patients who are suffering from the disease. The author had a chance of referring many siddha literatures and collected more information.

Medicines meant for research study where towards the patient is collected from both siddha system as well as modern system to medicine and a case sheet was prepared. (Model case sheet is affixed at the end of this dissertation book)

Separate case sheets were maintained for every patient who were admitted in the In-patient ward. Twenty patients were treated in the In-patient and another twenty patients in the out patient ward. The internal medicine Valladhagi chenduram 1g thrice a day with hot water after food and the external medicine Mashathy thylam for the external application with Thokkanam at the sides where affected to the patients.

The patients who were also treating with Yogaasanam Piranaayaamam, Thiyanam, Thokkanam, Varmam as supportive therapies along with main theraphy have got good and quick relief than the other patients.

The favourable effects of the drugs of the treatment good relief was reported within 10 days in mild cases, within 20 days in moderate cases and within 25 days in severe cases. The follow up study was done in the out-patient department.

Exercises to affected limbs and face were also advised to all patients.

At the time of discharge relief or improvement was observed clinically and there was maintenance of physiological conditions seen in all patients.

The twenty patients who were treated in out-patient ward also good relief.

Medicines were given to the patients until most of the symptoms were relieved as per siddha medicine it was regarded as a cure from the disease.

No toxic or side effects were observed clinically or reportedly in any patients during the course of treatment and the follow up study.

From the clinical study it could be inferred that treatment with trial drugs considerably improves the functions of,

1. Viyaana, which is responsible for all the movement in the body and also sensory and motor activities.
2. Abaanan, which is responsible for defaecation micturition, menstruation, parturirtion and ejaculation.
3. Naagan, which is responsible for movement of the eye ball, laziness, lassitude, quarrelling and arguing
4. Dhevathaththan which is responsible for movements of the eye ball, laziness, lassitude, quarreling, arguing begging and much anger.
5. And samaanan which is responsible for normal digestion and correction of other vaayus.

It could be also inferred that the trial drugs inhibit further vascular disorders and regulate the other physiological and biological processes of the body.

Research findings reveal bout the disease and its impact in the body. Statistics taken the help of details in the case sheet were give clear knowledge about the disease.

Available investigations in modern medicine were also considered for diagnosis and to follow the prognosis of the patients.

The efficacy of the trial drugs were studied by bio-chemical analysis and pharmacological evaluations.

CONCLUSION

When the internal medicine Valladhagi chenduram administered to the pakka vaadham patient along with Mashathy thylam for external application have a good relief.

Good clinical improved was observed in 13 (65%) patient out of 20 in-patient and 14(70%) out patient.

Moderate clinical improvement was observed in 2 patients out of 20 in-patients and 4 out-patients.

Partially clinical improvement was observed in 5 patients out 20 in-patient and 2 out-patient ward.

Patient who had followed Yoga, Pranayamam, Thiyanam, Thokkanam, and Dietary advice have got good relief than others.

Because of engorging result clinically study may undertake with large number of patient with same drug with create a new era in the field of siddha medicine especially in the treatment of this diseases Patchavatham. It may through light on relieving the patient from the clutches of crippling by this disease.

PREPARATION OF DRUGS

PREPARATION OF INTERNAL MEDICINE

ÅøÄ¡¾¢ ¦ºóàÃõ

§¾¨ÅÂ¡É ºÃìÌ¸û :

Íò¾¢ò¾ þÄ¢í¸õ : 70 ¸¢Ã¡õ

Íò¾¢ò¾ §¿÷Å¡Çõ : 140 ¸¢Ã¡õ

Íò¾¢ò¾ §ºí¦¸¡ð¨¼ : 175 ¸¢Ã¡õ

§Åô¦Àñ¦½ö : 1.25 Ä¢ð¼÷

§¸¡Æ¢Óð¨¼ ¯¨¼ò¾ ¸Õ : 175 ¸¢Ã¡õ

¦ºöÓ¨È ;

§Áü¸ñ¼ ºÃìÌ¸û Â¡¨ÅÔõ ´Õ Å¡Â¸ýÈ Áñ ºðÊÂ¢Ä¢ðÎ º¢Ú ¾£Â¡¸ ±¡¢ì¸ §ÅñÎõ. ±ñ¨½Â¡×õ ÅüÈ¢Â À¢ý À¡÷ò¾¡ø ºðÊÂ¢ø ¯ûÇ ºÃìÌ¸û Â¡×õ ¸Õ¸¢ ¾£öóÐ þÕìÌõ. Ä¢í¸ò¨¾ ÁðÎõ ±ÎòÐ ¸øÅò¾¢Ä¢ðÎ «¨ÃòÐ Ào¾¢Ã÷ÀÎò¾×õ.

«Ç× :

ÌýÈ¢ «Ç× (130 Á¢.¸¢Ã¡õ)þÕ §Å¨Ç §¾ý, þï º¢ º¡Ú

¾¢Õõ §¿¡ö¸û :

Àðº Å¡¾õ, º¸Ä Å¢¾ Å¡Ô, Ý¨Ä¸¨ÇÔõ, „Â ¸¡º §Ã¡¸õ ¾£Õõ.

¬¾¡Ã áø : ¿õ ¿¡ðÎ ¨Åò¾¢Âõ Àì¸õ ±ñ : 315

PREPARATION OF EXTERNAL MEDICINE

Á¡„¡¾¢ ¨¾Äõ

§¾¨ÅÂ¡É ºÃìÌ¸û :

¯ÙóÐ
«¾¢Å¢¼Âõ
¬Á½ÌÌ §Å÷ } ºÁ «Ç×
º¢üÈÃò¨¾
¾ñ½¢÷Å¢ð¼¡ñ ¸¢ÆíÌ
þóÐôÒ
§ÀÂ¡Å¨Ã

¯ÙóÐ } ¸¢Â¡Æõ
º¢üÈ¡ÓðÊ

±û¦Çñ¦½ö : ¸¢Â¡Æò¾¢üÌ 4ø1À¡¸õ

¦ºöÓ¨È :

¯ÙóÐ, º¢üÈÓðÊ þ¨Å þÃñ¨¼Ôõ ´ýÈ¢Ãñ¼¡¸ þÊòÐ ¸„¡Âõ ¦ºöÐ ¦¸¡ûÇ×õ.ÁüÈ ºÃìÌ¸¨Ç ÝÃ½õ ¦ºöÐ, ¸„¡Âò¾¢üÌ 4Ä¢ø 1 ÀíÌ ±û¦Çñ¦½ö ±ÎòÐ ¦¸¡ûÇ×õ, §ÁüÀÊ ¸„¡Âõ, ÝÃ½õ, ±ñ¦½ö ¬¸¢Â ãý¨ÈÔõ ¸ÄóÐ «Îô§ÀüÈ¢ ¦¸¡¾¢ì¸ ¨ÅòÐ À¾ò¾¢ø þÈì¸¢ ¨ÅòÐ ¦¸¡ûÇ×õ

¾£Õõ §¿¡ö:

§Áüâº Àðº Å¡òõ ¾£Õõ

¬¾¡Ã áø :

«ÏÀÅ ¨Åò¾¢Â §¾Å Ã¸º¢Âõ À ±ñ: 426

Íò¾¢ Ó¨È¸û

þÄ¢í¸õ:

ÀÍõÀ¡ø, Ìô¨À§ÁÉ¢ º¡Ú, ±ÖÁ¢îºõ ÀÆîº¡Ú ãýÈ¢Öõ ÍÕì¸¢ðÎ ±ÎòÐì ¦¸¡ûÇ×õ.

§ºÃ¡í¦¸¡ð¨¼:

ÒÇ¢Â¢¨Ä, ÒÃºõâ þÅüÈ¢ý ÌÊ¿£÷, ¸üÈ¡¨Æîº¡Ú, º¡½ôÀ¡ø þ¨Å¸Ç¢ø §Å¸¨ÅòÐ ±ÎòÐì ¦¸¡ûÇ×õ.

§¿÷Å¡Çõ:

ÀÍïº¡½ôÀ¡Ä¢ø 3 Á½¢ §¿Ãõ §Å¸¨ÅòÐ, ¿¢ÆÄ¢ø ¯Ä÷ò¾¢, µð¨¼ ¯¨¼òÐ, ®ÃòÐ¼ý Å¢ò¾¢¨Ä¸¨Ç ±ÎòÐ, ÀÍ ¦¿öÅ¢ðÎ ÅÚòÐ ±ÎòÐì ¦¸¡ûÇ×õ.

PROPERTIES OF RAW DRUGS

§ºÃ¡í¦¸¡ð¨¼

Botanical name	: semecarpus anacardium
English name	: marking nut
Sanskrit name	: Bhallapaka-bijam
Chemical constituents	: semecarpetin,bhilawanol

ÀñÒ¸û:

Í¨Å	: ¨¸ôÒ, Å¢ÚÅ¢ÚôÒ
¾ý¨Á	: ¦ÅôÀõ
À¢¡¢×	: ¸¡÷ôÒ
¦ºö¨¸	: ¯¼ø §¾üÈ¢, Òñ½¡ì¸¢

¦À¡Ð Ì½õ :

¸¡üÀ¡º Á¡¸ì ¸ÎôÒ¸¡Ä¢ý Óý§É
¸¡üÀ¡º Á¡¸ì ¸¾Ú§Á - ¸¡üÀ¡ºï
§ºÃ¡ Å¢¨Ãì¸üÀï º£Ã¡Å¡ ¦Áöì ¸¾É¡ø
§ºÃ¡ Å¢¨Ãì¸üÀó ¾¢ý

¾£Õõ §¿¡ö¸û:

¸¡Ä¢¨É Å¢Äí¸¢ð¼Ð §À¡ýÚ ¿¼ì¸ ¦Å¡ð¼¡Áø ¦ºö¸¢ýÈ ÅÇ¢ §¿¡ö¸û, ¾£Õõ.

§¿÷Å¡Çõ :

Botanical name	**: Croton tiglium**
English name	**: Purging croton**
Sanskrit name	**: Danthi**
Chemical constituents	**: fixed oil, croton globulin, ricinine**

ÀñÒ¸û:

Í¨Å	: ¦ÅÌð¼Ö¼ý ÜÊÂ ¨¸ôÒ
¾ý¨Á	: ¦ÅôÀõ
À¢¡¢×	: ¸¡÷ôÒ

¦À¡Ð Ì½õ :

¯¨Ãò¾¢Î Å¡¾§¿¡öìÌ Ó¨Ã¦¸Î Å¢¼¡ºýÉ¢
¿¢¨Ãò¾¢Î Ý¨ÄÌýÁ ¾£ñÊÎ ÁÄí¸ðÊüÌí
¸¨Ãò¾¢Î Å¡Çó ¾ý¨Éì ¸¾¢ò¾¢Î §Á¸ò¾¢üÌõ
«¨ºò¾¢Î À¢ò¾ó §¾¡÷ìÌõ «¸üÈ¢Î «¾¨É¾¡§É.

§Åô¦Àñ§½ö:

Botanical name	**: Azhardiacta indica**
English name	**: neem oil**
Sanskrit name	**: Nimbu**
Chemical constituents	**: nimbin, nimbinin,azhardactin**

ÀñÒ¸û:

Í¨Å	: ¨¸ôÒ
¾ý¨Á	: ¦ÅôÀõ
À¢¡¢×	: ¸¡÷ôÒ
¦ºö¨¸	: ¦ÅôÀÓñ¼¡ì¸¢, «Ø¸Ä¸üÈ¢,

¦À¡Ð Ì½õ:

Å¡¾õ §À¡õ À¢ò¾Á¢Ìõ Á¡È¡ì¸¢ ºó¾¢¦Â¡Î
§Á¡Ð¸Ãô À¡ýº¢ÃíÌ ÓýÉ¢º¢×õ - µÐ¼Ä¢ý
¿¡ôÀ¡ áÚÍÃÓ ¿¡Îºý É¢ Ôó¦¾¡¨ÄÔõ
§ÅôÀ¦¿ö ¦Âý¦È¡Õì¸¡ø Å¢ûÙ.

§¸¡Æ¢ Óð¨¼¸Õ :

¦ºö¨¸ : ¯ûÇÆÄ¡üÈ¢, ÁÄÁ¢Çì¸¢, §À¡„½¸¡¡¢.

¦À¡Ð Ì½õ :

Å¡¾À¢ò¾ï §º÷ôÀ¢ìÌõ Å¡¾§¾¡¼õ Òñ§À¡ìÌõ
¾¡Ð¨Å ¦Áò¾ ¾¨ÄôÀ¢ìÌõ - §Á¡Ð
¸Àò¨¾ Â¼ìÌí ¸ÃôÀ¡ý ¯ñ¼¡ìÌ
Á¢Àò¨¾ÔÚí §¸¡Æ¢ Óð¨¼ ¦Âñ.

¾£Õõ §¿¡ö¸û:

Å¡¾ §¿¡ö, Òñ, ¸À §¿¡ö¸û ¾£Õõ.

¯ÙóÐ

Botanical name	Vigna mungo
English name	Black gram
Sanskrit name	Maashs

ÀñÒ¸û:

Í¨Å þÉ¢ôÒ

¾ý¨Á ¾ðÀõ

À¢¡¢× þÉ¢ôÒ

¦ºÂø ¿ÃõÒ ¯ÃÁ¡ì¸¢ ¯ûÇÆÄ¡üÈ¢,¯ÃÁ¡ì¸¢

¦À¡Ð Ì½õ :

¦ºöÅÈó¾¢üÌî º¢§Ä¾ÁÅÉ¢ ÄüÀ¢ÈìÌõ

¦ÅöÂÀ¢ò¾õ §À¡Àó¾õ Å£Úí¸¡ñ ¦Áö¾É¢ø

±ýÒÕì¸¢ ¾£Õõ þÕôÒì ¸ÎôÀÄÁ¡õ

ÓýÒ Å¢Õò¾¢ÔñÑ¡ö Óý.

¾£Õõ §¿¡ö¸û :

þ¾É¡ø ÅÇ¢ §¿¡ö¸û, Ó¼ìÌ §¿¡ö¸û ¾£Õõ.

«¾¢Å¢¼Âõ

Botanical name : Aconitum heterophyllum

English name : Indian Atis root

Sanskrit name : Ativisha

Chemical constituents : aconitine, pseudoaconitine

ÀñÒ¸û

Í¨Å : ¨¸ôÒ

¾ý¨Á : ¦ÅôÀõ

À¢¡¢× : ¸¡÷ôÒ

¦ºö¨¸ : ¯ÃÁ¡ì¸¢, À º¢òàñÊ

¦À¡Ð Ì½õ :

«¾¢Å¢ ¼Âõº÷ì¸ Ã¡üÒ¾§¿¡ö ¦ÅôÒ
¦¸¡¾¢ÁÕ× §À¾¢¦Â¡Î §¸¡¨Æ-±¾¢÷Å¡ó¾¢
±ýÚ¨ÃìÌõ §¿¡öì Üð¼õ þøÄ¡¾¸üÈ¢ Å¢Îõ
Ìý¨È ¿¢¸÷ Ó¨ÄÂ¡ö ÜÚ.

¾£Õõ §¿¡ö¸û:

§À¾¢, ¦ÅôÒ §¿¡ö¸û, §¸¡¨Æ,Å¡ó¾¢ ¾£Õõ.

¬Á½ìÌ §Å÷:

Botanical name : Ricinus communis
English name : castor oil plant
Sanskrit name : Yeranda-vrikshaha
Chemical constituents : proteins, lectins, RCA 60

ÀñÒ¸û

Í¨Å : ¨¸ôÒ
¾ý¨Á : ¦ÅôÀõ
À¢¡¢× : ¸¡÷ôÒ
¦ºö¨¸ : Å¡¾Á¼ì¸¢

¦À¡Ð Ì½õ:

Å¡¾ò ¦¾¡¼ì¨¸ ÅÃ¦Å¡ð¼¡Áü ÀÊìÌì
¸¡¾òÐì ¸ôÀ¡ü ¸ÊÔ§Á - Ý¾ò¨¾ô
§ÀÃñ¼ô Àó¾¢ìÌõ §À¾¢ìÌõ §¿¡ì¸¡ð¨¼
§ÀÃñ¼ô ¦ÁýÀ¾¢É¢§Â.

¾£Õõ §¿¡ö¸û:

Å¡¾ §¿¡ö, ÁÄì¸ðÎ ¾£Õõ.

¾ñ½£÷Å¢ð¼¡ñ ¸¢ÆíÌ:

Botanical name : Asparagus racemosus

English name : wild asparagus

sanskrit name : shatavari

chemical constituents : shatavarin, asparagamine, racemosal

ÀñÒ¸û:

Í¨Å : þÉ¢ôÒ

¾ý¨Á : ¾ðÀõ

À¢¡¢× : þÉ¢ôÒ

¦ºö¨¸ : þº¢Å¸üÈ¢, ¯ÃÁ¡ì¸¢, ¯ûÇÆÄ¡üÈ¢

¦À¡Ð Ì½õ:

¿¢¡¢Æ¢¨Å §À¡ìÌõ ¦¿Î¿¡ðÍÃ ò¨¾¦ÂøÄ¡õ

°¨ÃÅ¢Îò §¾¡¼× ¨ÃìÌíì¸¡ñ ¿¡¡¢Â§Ã

¦Åñ½£÷¦Àö §º¡Á§¿¡ö ¦Åð¨¼ÂÉø ¾½¢ìÌó

¾ñ½£÷Å¢ð¼¡ý ¸¢ÆíÌ ¾¡ý.

¾£Õõ §¿¡ö¸û:

¿£¡¢Æ¢×, §º¡Á §¿¡ö, ¦Åð¨¼ §¿¡ö ¾£Õõ.

º¢üÈ¡ÓðÊ

Botanical name : Pavonia zeylanica

English name : yellow sticky mallon

Sanskrit name : Bala

Chemical constituents : pavophylline.

ÀñÒ¸û

Í¨Å : ÐÅ÷ôÒ

¾ý¨Á : ¾ðÀõ

À¢¡¢× : þÉ¢ôÒ

¦ºö¨¸ : ÅÈðº¢Â¸üÈ¢

¦À¡Ð Ì½õ:

«ò¾¢ ÍÃÓ¾ø «Éó¾ÍÃõ À¢ò¾Óõ §À¡õ

¦Áò¾ Å¢Æ¢ì¦¸¡Ç¢Â¡ö Å£Ú¾Â¢ - Äò¾¢ü¸¡õ

¿üÈ¡ Á¨Ãò¾¢Õ× ¿¡Î ¦ÁÆ¢üÈ¢Õ§Å
º¢üÈ¡Óð ÊòÐ¨Ãî ¦ºôÒ.

¾£Õõ §¿¡ö¸û:

±ýÒ ÍÃõ, «Æø §¿¡ö, þ¨Å ¿£íÌõ.

º¢üÈÃò¨¾:

Botanical name : Alphinia galanga

English name : lesser galanga

sanskrit name : Rasna

ÀñÒ¸û:

Í¨Å : ¸¡÷ôÒ

¾ý¨Á : ¦ÅðÀõ

À¢¡¢× : ¸¡÷ôÒ

¦ºö¨¸ : ÁÄÁ¢Çì¸¢, Àº¢òàñÊ

¦À¡Ð Ì½õ:

Å¡¾À¢ò¾í ¸ÃôÀ¡ý Å¡¾º¢§Ã¡ §Ã¡¸õ
§º÷ó¾ ¸À Óò§¾¡¼õ º£¾§Á¡Î - §¿÷ó¾ÍÃõ
ÀüÈÃò¨¾ì ¸¡ðÊ ÅÕÁ¢Õ¸ Öó¾£Õõ
º¢üÈÃò¨¾ ÅýÁÕó¾¡ø §¾÷.

¾£Õõ §¿¡ö¸û:

Å¡¾ §¿¡ö¸û, Å¡Ô, ¾¨Ä §¿¡ö¸û.

±û:

Botanical name : Sesamum indicum

English name : Gingely oil plant

sanskrit name : Thilem

Constituents : sesamin, sesmolin

ÀñÒ¸û:

Í¨Å : þÉ¢ôÒ

¾ý¨Á : ¾ðÀõ

À¢¡¢× : þÉ¢ôÒ

¦ºö¨¸ : ÁÄÁ¢Çì¸¢, ¯ÃÁ¡ì¸¢,

¦À¡Ð Ì½õ:

±ûÙÁÕó¨¾ ¦¸ÎìÌõ ±ÈÉÄ¡ó ¾¢ñ¨Á¾Õõ

ÅýÉ¢¨Ä¨î §º÷ìÌõ ¯¾¢Ãò¨¾ò ¾ûÙÁ¢Ì

¸ñÏì¦¸¡Ç¢ ¦¸¡ÎìÌõ ¸¡ºÓñ¼¡õ À¢ò¾ÓÁ¡õ

ÀñÏì ¸¢¼÷ Ò¡¢Ôõ À¡÷

¾£Õõ §¿¡ö¸û:

¸ñÏìÌ µÇ¢ ¦¸¡ÎìÌõ.

ANNEXURE - II

ANALYSIS OF DRUGS

1. Bio - Chemical Analysis

The biochemical analysis of Valladhagi chenduram was getting form the department of Biochemistry, Govt. Siddha Medical College, Palayamkottai.

2. Pharmacological analysis

The Pharmacological analysis done in the Department of Pharmacology, Govt. Siddha Medical College, Palayamkottai.

The external medicine, MashathyThylam has Significant anti - inflammatory effect in acute conditions.

The Pharmacological analysis of Valladhagi chenduram in different forms shows the good anti - coagulant activity.

GOVT. SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI

1. BIO-CHEMICAL ANALYSIS OF VALLADHAGI CHENDURAM

Preparation of the extract

5 gms of chenduram weighed accurately and placed in a clean beaker. Then few drops of conc Hydrochloric acid is added and allow to evaporate. After evaporation the content is cooled and few drops of conc Nitric Acid is added and allow to evaporate. The content is cooled and 20 ml of distilled water is added and dissolved well. Then it is transferred to 100ml flask and upto 100ml my mixing with distilled water. It is filtered and taken for analysis.

Qualitative analysis

S.No	Experiment	Observation	Inference
1	**TEST FOR CALCIUM :** 2ml of the above prepared extract is taken in a clean test tube. Add 2ml 4% Ammonium oxalate solution is added to it	A white precipitate is formed	Indicates the presence of calcium
2	**TEST FOR SULPHATE :** 2ml of the extract is added to 5% barium chloride solution	A white precipitate is formed	Indicates the presence of sulphate
3	**TEST FOR CHLORIDE :** The extract is treated with silver nitrate solution	A white precipitate is formed	Indicates the presence of chloride
4	**TEST FOR CARBONATE :** The substance is treated with concentrated HCL	No brisk effervescence is formed	Absence of carbonate
5	**TEST FOR ZINC :** The extract is added with Potassium Ferro cyanide solution.	A white precipitate is formed	Indicates the presence of Zinc
6	**TEST FOR IRON :** **FERRIC :** The extract is treated with glacial acid and potassium	No blue colour is formed	Absence of Ferric Iron.
7	**TEST OF IRON FERROUS :** The extract is treated with concentrated Nitric acid and ammonium thio cyanate	No blood red colour is formed	Absence of Ferroue Iron.

8	**TEST FOR PHOSPHATE :** The extract is treated with ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
9	**TEST FOR ALBUMIN :** The extract is treated with Esbach's reagent	No Yellow precipitated is formed	Absence of Albumin
10	**TEST FOR TANNIC ACID :** The extract is treated with Ferric Chloride reagent.	Blue black precipitate is formed	Indicated the presence of Tannic acid.
11	**TEST FOR UNSAURATION :** Potassium permanganate solution is added To the extract	It gets decolorized	Indicates the presence of unsaturated compound.
12	**TEST FOR THE REDUCING SUGAR :** 5ml of Benedict's qualitative solution is taken in test tube and allowed to boil for 2mts and added 8-10 drops of the extract and again boil it for 2 mts.	Colour change occurs	Indicates the presence of Reducing Sugar.
13	**TEST FOR AMINO ACID :** One or two drops of the extract is placed on a filter paper and dried it well after drying 1% Ninhydrin is sprayed over the same and Dried it well.	Violet colour is formed.	Indicates the presence of Amino Acid.

2. PHARMACOLOGICAL ANALYSIS

ANALGESIC ACTION OF VALLADHAGI CHENDURAM

Introduction

According to siddha medicine the Valladhagi Chenduram is indicated in vatha diseases. From this indication the drug Valladhagi Chenduram might possess analgsic activity.

Aim

To study the analgesic effect of valladhagi chenduram on albino rats by tail flick method.

Materials and Methods

Preparation of the test drug 100mg of valladhagi chenduram was suspended in 5ml of water and 5ml of honey of suspending agent. This 1 ml contained 100mg of the test drug.

Equipement

Hot water bath

Procedure

Six male albino rats (weighing 80 -100gms) were used in three groups. The animals were allowed to free access to food and water until they brought for the experiment. The animals which showed the positive response to the stimulus within a given time were selected for the study.

After the selection of animals which were responding to stimulus with 2 seconds, they were divides in to 3 groups, each group consisting of two rats.

The hot water was maintained at 55° C. The tip of the tail was immersed into the water bath and the time was noted when the rat flicked the tail.

First group was administered with valladhagi chenduram at a dose of 100mg / 100gm body weight of the animal.

Second group was administered with paracetamol at a dose of 10mg /gm of body weight. Third group was given to the 1ml of water and kept as control.

After the drug administration, the reaction time of each rat after half an hour and one hour were noted in each group (when a rat fails to flick the tail, it should not be continued beyond 8 seconds to avoid injury) and the average was calculated.

The results of control group, standard group and drug treated group were tabulated and compared.

Results

Effect to valladhagi chenduram

S N	**Name of the drugs / Groups**	**Dose 100 gram body weight**	**After drug Administration**			**Remarks**
			INITIAL READING	**AFTER 1/2HR**	**AFTER 1HR**	
1	Control	2 ml	3 secs 3 secs	3 secs 3 secs	3 secs 2 secs	
2	Std	20 mg	3 secs 3 secs	7 secs 8 secs	8 secs 8 secs	
3	valladhagi chenduram	200mg	3 secs 3 secs	5 secs 5 secs	7 secs 7 secs	**Significant action**

Inference

From the above tabulation it is noted that valladhagi chenduram has **Significant** analgesic action.

STUDY OF ACUTE ANTI-INFLAMMATORY BY HIND PAW METHOD – USING PLETHYSMOGRAPH USING THE DRUG ON VALLADHAGI CHENDURAM

Aim

To study the acute anti – inflammatory effect on valladhagi chenduram

Method

The acute anti – inflammatory activity of valladhagi chenduram was screened by rat Hind paw edema method.

Preparation of the test drug

200 mg of valladhagi chenduram was suspended in 5 ml of water and 5ml of honey. From the above test drug 1ml was administered orally and this 1ml contain 100 mg Manosilai Kattu chenduram

Procedure

The anti - inflammatory activity of valladhagi chenduram was studied in healthy Albino - rats weighing 100-150gms. Six rats were selected and divided into three groups, each containing three rats. The first group was given distilled water 1ml, internally and was kept as control. The second group was given the test drug at a dose of 20mg / 100gms body weight. The third group was given ibubrufen at a dose of 20mg / 100g body weight.

Before administration of the drug, the hind paw volume of all rats were measured by dipping the hind paw upto the tibiodorsal junction in a mercury plethymography. Soon after measurement, the drug was administration internally.

An hour after adminstration of the drugs a subcutaneous injection of 0.1ml of 1% W/V of carrageenin in water was injected in the plantar surface of both the hind-paw and volume was measured once again. The difference between the

initial and final volumes would show the amount of inflammation. Taking the volume in the control group as 100% of inflammation, the inflammation or anti – inflammatory effect of the drug was calculated. Tabulations of the results were recorded.

Results

EFFECT OF VALLADHAGI CHENDURAM

S.NO	Name of drug / groups	Dose 100 gram body weight	Initial reading average	Final reading average	Mean difference	Percentage in flammation	Percentage inhibition	Remarks
1	Control	2 ml	0.8	1.5	0.7	100	Nil	
2	Std	20 mg	0.7	0.35	0.25	35.7	64.3	
3	**VALLADHAGI CHENDURAM**	200 mg	0.85	1.13	0.28	32.9	67.1	Significant action

Inference :

From the above experiment it is observed that the test drug valladhagi chenduram has got significant acute anti inflammatory action.

STUDY OF ACUTE ANTI-INFLAMMATORY BY HIND PAW METHOD USING PLETHYSMOGRAPH USING THE DRUG ON MASHATHY THYLAM

Aim

To study the acute anti - inflammatory effect on Mashathy Thylam.

Method

The acute anti - inflammatory activity of Mashathy Thylam. was screened by rat Hind paw edema method.

Preparation of the test drug

2 mlof Mashathy Thylam was suspended in 5 ml of water. From the above test drug 1ml was administered orally and this 1ml contain 100 mg Manosilai Kattu chenduram

Procedure

The anti - inflammatory activity of Mashathy Thylam was studied in healthy Albino - rats weighing 100 -150gms. Six rats were selected and divided into three groups, each containing three rats. The first group was given distilled water 1ml, internally and was kept as control. The second group was given the test drug at a dose of 20mg / 100gms body weight. The third group was given ibubrufen at a dose of 20mg / 100g body weight.

Before administration of the drug, the hind paw volume of all rats were measured by dipping the hind paw upto the tibiodorsal junction in a mercury plethymography. Soon after measurement, the drug was administration internally.

An hour after adminstration of the drugs a subcutaneous injection of 0.1ml of 1% W/V of carrageenin in water was injected in the plantar surface of both the hind-paw and volume was measured once again. The difference between the

initial and final volumes would show the amount of inflammation. Taking the volume in the control group as 100% of inflammation, the inflammation or anti – inflammatory effect of the drug was calculated. Tabulations of the results were recorded.

Results

Effect of Mashathy Thylam

S.N	Name of drug / groups	Dose 100 gram body weight	Initial reading average	Final reading average	Mean difference	Percentage in flammation	Percentage inhibition	Remarks
1	Control	2 ml	0.8	1.5	0.7	100	Nil	
2	Std	20 mg	0.7	0.95	0.25	35.7	64.3	
3	Mashathy Thylam	-	0.7	1.05	0.35	41.1	58.9	Significant Action

Inference

From the above experiment it is observed that the test drug Mashathy Thylam has got significant acute anti inflammatory action.

ANTI COAGULANT EFFECT OF VALLADHAGI CHENDURAM IN DIFFERENT FORMS (IN - VIVO)

Aim

To study the anti – coagulant effect of valladhagi chenduram

Preparation of test drug

As the valladhagi chenduram in nature and incompletely dissolved in distilled water or in blood, the Chooranam form of valladhagi chenduram is taken for study.

i. 1 gm of valladhagi chenduram was dissolved in 1ml of distilled water.
ii. 1 gm of valladhagi chenduram was dissolved in 1ml of distilled water and mixed with 1ml of human fresh blood in different quantity levels were estimated.

The fresh blood taken from the human source is the initial time and the blood coagulated inside the capillary tube and form a fibrin thread is the Final time. The time taken to coagulate the blood inside the capillary tube is the clotting time and the mean clotting time is calculated tube is the clotting time and the mean clotting time is calculated for each experiment. The same experiment was carried out into distilled water, aspirin, EDTA and heparin subsequently. The values are tabulated.

Drug	Dose	Bleeding Time	Result
Control	1 gm	4.55 secs	
Std (Vitamin K tablet)	1 gm	2.55 secs	
VALLADHAGI CHENDURAM	1 gm	2.40 secs	Significant Action

Inference

From the above experiment it is observed that the test drug valladhagi chenduram has got significant Anti Coagulant action.

CASE SHEET PROFORMA FOR "PATCHA VATHAM"

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

POST GRADUATE DEPARTMENT,

PALAYAMKOTTAI, TIRUNELVELI-2

BRANCH - III SIRAPPU MARUTHUVAM

I.P.No	:	Occupation	:
Bed No	:	Income	:
Ward	:	Nationality	:
Name	:	Religion	:
Age	:	Date of Admission	:
Sex	:	Date of Discharge	:
Permanent Address	:	Diagnosis	:
Result	:	Medical Officer	:

COMPLAINTS AND DURATION

H/O. PRESENT ILLNESS

H/O. PAST ILLNESS

H/o. Diabetes Mellitus, Hypertension, Pulmonary Tuberculosis and STD

TREATMENT HISTORY

FAMILY HISTORY

Similar episode in the family :

H/o Consanguinous marriage of parents :

PERSONAL HISTORY

Marital Status :

Siblings :

Habits - Smoking, alcoholic,
Tobacco chewing. :

Diet. :

MENSTRUAL HISTORY :
OBSTETRICAL HISTORY :
PROVISIONAL DIAGNOSIS :
GENERAL EXAMINATION

Consciousness :

Comfortable / Not Comfortable :

Built :

Nutrition :

Anaemia :

Jaundice :

Cyanosis :

Lymphadenopathy :

Clubbing :

Oedema :

Vital Signs

Temp :

BP :

Pulse

Rate :

Rhythm :

Volume :

Character :

RR :

HR :

Felt in all Peripheral area :

Condition of arterial wall :

Radio femoral delay :

SIDDHA ASPECT

Nilam

Kurinchi

Mullai

Marutham

Neithal

Palai

Udal Nilai

Vatham

Pitham

Kapam

Kalappu Udal

Gunam

Sathuvam

Rasatham

Thamasam

Iymporigal

Kan

Kathu

Mooku

Vaai

Mei

Kanmenthiriyam

Kai

Kaal

Vaai

Eru Vaai

Karu Vaai

Uyir thathukkal

A. Vatham

Piranan

Abanan

Viyanan

Uthanan

Samanan

Nagan

Koorman

Kirukaran

Devathathan

Thananjeyan

B. Pitham

Anarpitham

Ranjagapitham

Sathagapitham

Alosagapitham

Pirasagapitham

C. Kabam

Avalambagam

Kilethagam

Pothagam

Tharpagam

Santhigam

XI. Udal Thathukkal

Saaram

Senneer

Oon

Kozhuppu

Enbu

Moolai

Sukkilam / Suronitham

XII. Envagai Thervugal

Naadi

Sparisam

Naa

Niram

Mozhi

Vizhi

Malam -

Niram,

Edai,

irugal,

ilagal

Moothiram a) Neerkuri b) Neikuri

Niram

Manam

Edai

Nurai

Enjal

MODERN ASPECTS

Examination of Cranial Nerves

I. Olfactory nerve

Smell :

II. Optic Nerve :

Acquit of vision :

Field of Vision :

Colour Vision :

Accommodation reflex :

Light reflex :

III. Oculomotor N :

IV. Trochlear nerve :

V. Trigeminal N

Sensation on face :

VI. Abducent N

Movements of eyeball :

Diplopia :

VII. Facial N

Wrinkling of forehead :

Closing the eyelids :

Showing teeth :

Whistling :

Blowing the cheek :

Eating :

Taste in the ant 2/3rd of the tongue :

H/o Hyperacoustis. :

VIII. Vestibulo - Cochlear N

Hearing :

Rinnes test :

Webers test :

H/o.Vertigo :

IX. Glosso Pharyngeal N

Taste in the Post 1/3rd of the tongue :

Gag reflex :

Palatal reflex :

X. Vagus N

Gag reflex :

H/o. nasal regurgitation :

XI. Spinal accessory N

Shrugging of shoulder :

Turning the head against resistance :

XII. Hypo glossal N

Movement of tongue :

Tongue deviation :

Fasciculation :

Wasting :

EXAMINATION OF CENTRAL NERVOUS SYSTEM

Handedness :

HIGHER FUNCTION TEST

1. Mental Function :

Appearance :

Behavior :

Communication :

Intelligence :

Educational level :

Language :

Dressing :

Interest on Surrounding :

Expression to greeting :

Conversation :

2. Emotion :

3. Sleep :

4. Delusion and hallucination :

5. Orientation : Time :

Place :

Person :

6. Clouding of consciousness (Dementia / Delirium)

7. Memory :

Remote memory :

Recent memory :

Immediate memory :

8. Speech :

Articulation :

Fluency :

Verbal comprehension :

Naming :

Repetition :

Reading :

Writing

Apraxia :

Acalculia :

Alexia :

Comprehension of language visual field

MOTOR SYSTEM

1. Bulk of the Muscles **R** **L**

Upper arm :

Fore arm :

Thigh :

Leg :

2. Power

Hand Grip			**Right**	**Left**
Upper Limb	Shoulder	Extension		
		Flexion		
		Abduction		
		Adduction		
		Rotation		
	Elbow	Extension		
		Flexion		
	Wrist	Flexion		
		Extension		
		Pronation		
		Supination		
		Abduction		
		Adduction		
Lower Limb	Hip Joint	Extension		
		Flexion		
		Abduction		
		Adduction		
		Rotation		
	Knee Joint	Flexion		
		Extension		
	Ankle Joint	Dorsi Flexion		
		Plantar Flexion		
		Inversion		
		Eversion		

Grade : 0 - Absence ; 1 – Present ; 2 - Brisk ; 3 – Very Brisk; 4 – Clonus

3. Tone	:	**R**	**L**
Upper Limb (Flexors)	:		
Biceps	:		
Triceps	:		
Elbow	:		
Wrist	:		
Lower Limb (Extensors)	:		
Knee			

4. Co-ordination

Upper limb		**R**	**L**
Finger nose test	:		
Finger - finger nose	:		
Tapping in a circle	:		
Dysdiadochokinesis	:		
Lower Limb		**R**	**L**
Knee shin ankle test	:		
Draw a circle in air	:		
Tandem walking	:		
Foot pat test	:		
Under burgers test	:		

5. Involuntary movements

Epilepsy, myoclonus, tremor, athetosis, chorea, hemiballismus, dyskinesia, dystonia, torticollis, ties, myokymia, asterixis, tetany and cramps - not / present.

EXAMINATION OF SENSORY SYSTEM

Superficial		**R**	**L**
Touch	:		
Pain	:		
Temp	:		

Deep		R	L
Position sense	:		
Joint Sense (thumb)	:		
Vibration sense	:		
Tactile localization	:		
Two Point discrimination	:		
2-5 mm Pulp of the finger	:		
2-3 cm Palm	:		
4 cm Sole	:		
5 cm chest, Leg, Back	:		
Stereognosis	:		
Graphaesthesia	:		
Sensory inattention	:		

REFLEXES

1. Superficial reflex

Corneal reflex	:
Conjunctinal (T6 - T12)	:
Abdominal reflex	:
Cremasteric reflex	:
Plantar reflex	:
Oppenheims sign	:
Gardon reflex	:
Hoffman reflex	:
Wartenberg's sign	:

2. Deep Reflex

Biceps jerk	:
Triceps jerk	:
Supinator jerk	:
Knee jerk	:
Ankle jerk	:
Jaw jerk	:

Clonus

Ankle Clonus	:	
Patellar Clonus	:	

3. Released reflexes (Primitive reflexes)	:	**R**	**L**
Grasp reflex (radial border)	:		
Avoiding reflex (ulnar bordar)	:		
Palmo mental reflex (thenor eminence)	:		
Sucking reflex (Angle of mouth)	:		
Snout reflex	:		
Galbellar tap reflex	:		

CEREBELLAR SIGNS

Dyssynergia	:	
Dysmetria	:	
Dysidiadochokinesia	:	
Rebound phenomenon	:	
Hypotonia	:	
Abnormalities of the gait	:	
Speech disturbances	:	
Scanning	:	
Dysarthria	:	
Nystagmus	:	
Pendular Knee jerk	:	
Intention tremor	:	
Titubation	:	

GAIT

Circumduction	:	

SIGNS OF MENINGEAL IRRITATION

Neck Stiffness	:	
Kernig’s sign	:	

BRUIT

Face :

Occiput :

Carotid :

EXAMINATION OF OTHER SYSTMS

1. Cardio Vascular system

Inspection :

Palpation :

Percussion :

Ausculation :

2. Respiratory System

NVBS

3. Abdomen

Tenderness :

Organomegaly :

Free fluid :

INVESTIGATION

I. Blood

TC :

DC :

ESR :

HB :

Bleeding Time :

Clotting Time :

Blood Sugar :

Blood Urea :

Lipid Profile :

Serum Cholesterol :

Serum Creatinine :

VDRL :

HIV :

II. Urine

Albumin :

Sugar :

Deposits :

III. X-Ray / ECG

Chest :

Skull :

IV. CT Scan :

V. MRI Scan :

Case Summary :

DIAGNOSIS :

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

POST GRADUATE DEPARTMENT

PALAYAMKOTTAI, TIRUNELVELI - 627 002

SIRAPPU MARUTHUVAM

DAILY REPORT

Date	Complaints	B.P	Medicine	Dose	Time

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ஆமணக்கு வேர்

இந்துப்பு

அதிவிடயம்

உளுந்து

சிற்றாமுட்டி

தண்ணீர்விட்டான்

எள் எண்ணெய்

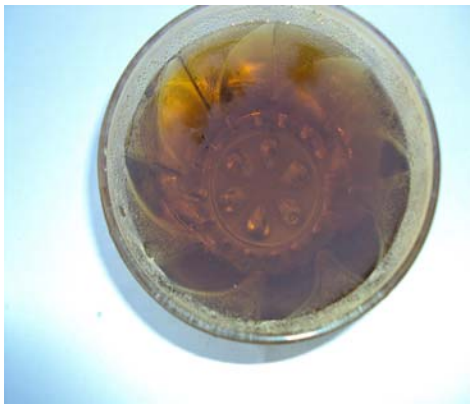
மாசாதி தைலம்

சேராங்கொட்டை

நேர்வாளம்

முட்டைகரு

வேப்ப எண்ணெய்



லிங்கம்

வல்லாதகி செந்தூரம்

CLINICAL LABORATORY INVESTIGATIONS

CLINICAL LABORATORY INVESTIGATIONS

S.N	IP.NO	WBC Total count (Cu mm)		WBC Differential Count						ESR Mm ½ hr, 1 hr		Hb %		Sugar mgs RA %		Urea mgs %		Cholesterol mgs %		Bleeding Time Min, sec		Clotting time Min, sec		Urine analysis		Motion analysis	
				BT			AT																				
		BT	AT	P	L	E	P	L	E	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	1339	10200	10000	70	26	4	70	28	2	26-42	24-40	58	66	84	88	23	23	191	191	1.55	1.55	2.10	3.00	puscells	Pus	-	-
2	1262	8800	8800	68	24	8	72	24	4	3-6	3-6	66	66	96	96	26	28	184	186	2.15	2.15	3.10	3.00	-	-	-	-
3	1337	7700	7900	63	34	3	67	30	3	10-20	8-18	78	78	124	120	35	35	182	180	1.50	1.50	2.40	4.00	-	-	-	-
4	1155	8700	8600	66	38	6	66	36	4	7-14	7-14	80	84	106	108	38	36	178	178	1.52	1.50	2.10	2.20	Epi ,pus	pus	-	-
5	1757	8500	8500	67	30	3	68	30	2	5-10	5-10	78	78	126	118	38	36	148	160	1.40	1.40	3.00	3.20	-	-	-	-
6	1759	8300	8200	66	32	2	66	32	2	3-6	2-4	64	64	226	190	38	38	131	138	1.40	1.50	3.35	3.30	-	-	-	-
7	1655	7300	7300	67	30	3	67	30	3	2-4	2-4	71	74	94	98	24	24	259	250	1.40	1.50	2.00	2.20	-	-	-	-
8	1681	7900	7900	69	24	7	69	29	2	4-8	6-10	84	80	88	88	36	34	156	156	1.50	1.55	3.10	4.00	-	-	-	-
9	1598	8500	8500	66	31	3	68	30	2	2-6	2-6	68	68	86	86	38	38	150	154	2.00	2.20	2.50	2.50	Pus	Pus	-	-
10	1737	7500	7600	66	32	2	66	32	2	3-6	3-6	64	66	102	100	27	28	164	166	2.05	2.05	3.30	3.05	Pus	-	-	-
11	2563	8900	8900	58	38	4	58	38	4	6-8	6-8	70	70	114	106	26	26	190	190	1.48	2.54	2.50	3.06	-	-	-	-
12	1692	8700	8500	66	30	4	68	32	2	5-14	4-8	66	68	196	140	24	24	168	166	1.45	1.50	2.40	3.16	-	-	-	-
13	1655	9500	9000	54	44	2	50	40	2	5-11	5-10	71	70	98	90	20	28	148	140	2.00	2.00	2.55	3.08	Epi,pus	Epi	-	-
14	1904	8200	8000	54	32	14	58	30	4	2-5	2-4	88	88	96	96	28	28	151	156	2.00	1.50	3.05	3.06	Epi	Pus	-	-
15	2563	8600	9200	65	30	5	68	29	3	2-4	3-6	72	80	198	166	23	23	162	164	1.40	2.00	2.50	3.00	Pus	-	-	-
16	1481	8000	8400	69	23	8	65	31	4	2-4	2-4	75	66	89	107	30	38	259	230	1.40	1.50	4.00	4.00	-	-	-	-
17	2306 2589	9400	9000	76	20	4	60	20	2	32-60	10-20	66	70	196	120	20	20	185	175	1.40	1.30	2.38	3.00	-	Pus	-	-
18	1411	9600	9000	66	30	4	68	30	2	6-13	6-12	71	80	79	80	18	20	154	154	2.10	1.58	3.00	3.50	Pus	Pus	-	-
19	2215	9600	10000	58	40	2	58	40	2	6-18	6-18	64	64	210	140	20	28	160	160	1.48	1.38	3.00	3.06	Pus,epi	Pus	-	-
20	2023	8600	8600	60	30	6	68	35	4	15-30	15-30	80	80	100	80	28	20	160	150	2.00	3.50	3.50	3.40	-	-	-	-

S.No - Serial Number : I.P No. - Inpatient ward number : WBC - White blood corpuscle : EPi - Epithelial cell
P - Polymorphs : L - Lymphocytes : E - Eosinophils : ESR – Erythrocyte sedimentation rate
Hb - Haemoglobin : BT - Before treatment : AT - After treatment Sug – Sugar

CLINICAL PRESENTATION

Case summary of inpatients

SN	Particulars of Patients	Clinical Presentation at the time of admission	Clinical condition at the time of discharge	Medication	Clinical improvement
1	**Mr.Jeyachandran** **IP No. : 1337** **DOA : 4/7/09** **DOD : 11/8/09** **NDT : 38**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL 0/5 : LL0/5** **3. DTR : UL. II : LL.II** **4. B.P : 130/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL. I** **LL. I** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathy thylam** **3. Thokkanam** **4. Varmam**	**Good**
2	**Mr.Maripandi** **IP No. : 1681** **DOA : 11/8/09** **DOD : 13/9/09** **NDT : 32**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 120/80 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL.III** **LL.III** **3. BP: 120/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathy thylam** **3. Thokkanam** **4. Varmam**	**Good**
3	**Mr.Gangaiammal** **IP No. : 1737** **DOA : 18/8/09** **DOD : 19/9/09** **NDT : 31** **Diabetes** **Hypertension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL0/5 : LL0/5** **3. DTR : UL.II : LL.II** **4. B.P : 140/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 2/5** **LL. 2/5** **2. DTR : UL. I** **LL I** **3. BP: 130/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Moderate**

4	**Mr.Pandaram** **IP No. : 1414** **DOA : 14/7/09** **DOD : 21/8/09** **NDT : 37**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL0/5 : LL0/5** **3. DTR : UL.III : LL.III** **4. B.P : 120/80mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL. I** **LL. I** **3. BP: 120/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Good**
5	**Mr.Parvathi** **IP No. : 1598** **DOA : 3/8/09** **DOD : 14/9/09** **NDT : 42** **Hypertension** **Diabetes mellitus**	***Patchavatham : Rt*** **1. Cranial nerve involvement : VII** **2. Power : UL0/5 : LL0/5** **3. DTR : UL.III : LL.III** **4. B.P : 140/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL I** **LL. I** **3. BP: 140/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Good**
6	**Mr.Ayyamperumal** **IP No. : 1625** **DOA : 24.10.09** **DOD : 26.11.09** **NDT : 31** **Diabetic**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.II : LL.II** **4. B.P : 130/80 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL I** **LL I** **3. BP: 130/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**
7	**Mr.Abul asan** **IP No. : 1601** **DOA : 12/8/09** **DOD : 30/8/09** **NDT : 19**	***Patchavatham : Lt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 130/80mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL. I** **LL. I** **3. BP: 120/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**partial**

8	**Mr.Lakshmanan** **IP No. : 2807** **DOA : 15.11.07** **DOD : 02.01.08** **NDT : 48**	***Patchavatham : Lt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL0/5 : LL0/5** **3. DTR : UL.III : LL.III** **4. B.P :130/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL. I** **LL I** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**
9	**Mrs.Jeba mani** **IP No. : 2815** **DOA : 16.11.07** **DOD : 07.01.08** **NDT : 52**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.III : LL.III** **4. B.P : 140/80 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL. II** **LL. II** **3. BP: 140/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam** **3. Thokkanam** **4. Varmam**	**Good**
10	**Mr.Jackil** **IP No. : 2841** **DOA : 19.11.07** **DOD : 18.12.07** **NDT : 29**	***Patchavatham : Lt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 130/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL I** **LL. I** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Partialy**
11	**Mrs.Innasi** **IP No. : 2949** **DOA : 04.12.07** **DOD : 30.12.07** **NDT : 26**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.III : LL.III** **4. B.P : 140/80 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL I** **LL I** **3. BP: 120/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**

12	**Mr.Samuthram** **IP No. : 3025** **DOA : 12.12.07** **DOD : 14.01.08** **NDT : 33** **Hyper tension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.III : LL.III** **4. B.P : 150/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL. I** **LL I** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**
13	**Mr.Kasirajan** **IP No. : 146** **DOA : 19.01.08** **DOD : 04.03.08** **NDT : 45** **Hypertension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 160/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL.II** **LL.II** **3. BP: 150/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**
14	**Mr.Sedhuramalingam** **IP No. : 525** **DOA : 22.02.08** **DOD : 26.04.08** **NDT : 64** **Hyper tension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.III : LL.III** **4. B.P : 150/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL. II** **LL II** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Good**
15	**Mr.Vannamamalai** **IP No. : 554** **DOA : 26.02.08** **DOD : 27.03.08** **NDT : 30**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.II : LL.II** **4. B.P : 130/90 mmHg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL I** **LL. I** **3. BP: 120/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathythylam** **3. Thokkanam** **4. Varmam**	**Partialy**

16	**Mr.Arjunan** **IP No. : 565** **DOA : 26.02.08** **DOD : 01.04.08** **NDT : 34**	***Patchavatham : Rt:*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.III : LL.III** **4. B.P : 130/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL. I1** **LL II** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Good**
17	**Mr.Kannaih** **IP No. : 649** **DOA : 10.03.08** **DOD : 11.04.08** **NDT : 32** **Hypertension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL2/5 : LL2/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 130/80 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL.3/5** **LL. 3/5** **2. DTR : UL. II** **LL. II** **3. BP: 120/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Good**
18	**Mr.Selvin durai** **IP No. : 826** **DOA : 29.03.08** **DOD : 06.05.08** **NDT : 38**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL3/5 : LL3/5** **3. DTR : UL.I : LL.I** **4. B.P : 150/90 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL II** **LL. II** **3. BP: 150/80 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Good**

19	**Mr.Kailasam** **IP No. : 1004** **DOA : 18.04.08** **DOD : 19.05.08** **NDT : 31** **Hypertension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL1/5** **3. DTR : UL.IV : LL.IV** **4. B.P : 170/100 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 3/5** **LL. 3/5** **2. DTR : UL.III** **LL.III** **3. BP: 130/90 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Partialy**
20	**Mr.Meeran mydeen** **IP No. : 1028** **DOA : 22.04.08** **DOD : 19.05.08** **NDT : 27** **Hypertension**	***Patchavatham : Rt*** **Features :** **1. Cranial nerve involvement : VII** **2. Power : UL1/5 : LL2/5** **3. DTR : UL.II : LL.II** **4. B.P : 180/100 mm Hg** **5. Fundus Grade I** **6. Plantar extensor response**	**Features :** **1. Power : UL. 4/5** **LL. 4/5** **2. DTR : UL II** **LL. II** **3. BP: 140/100 mmHg** **4. Fundus Grade I** **5. Plantar extensor**	**1. Valladhagi chenduram** **2. Mashathy thylam 3. Thokkanam** **4. Varmam**	**Partialy**

DOA - Date of Admission ; DOD - Date of Discharge ; UL – Upper Limb

LL - Lower Limb ; DTR - Deep Tendon Reflex ; B.P. – Blood Pressure

EXAMINATION OF CRANIAL NERVES

S.No	I.P No.	Olfactory Nerve	Optic Nerve	Oculomotor Nerve	Trochclear Nerve	Trigeminal Nerve	Abducent Nerve	Facial Nerve	Vestbulo cochlear Nerve	Glosso pharyngeal Nerve	Vagus Nerve	Spinal accessory Nerve	Hypoglossal Nerve
1	1339	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
2	1262	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
3	1337	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
4	1155	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
5	1757	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
6	1759	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
7	1655	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
8	1681	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
9	1598	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
10	1737	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
11	2563	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
12	1692	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
13	1655	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
14	1904	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
15	2589	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
16	1481	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
17	2306	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
18	1411	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
19	2215	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal
20	2023	Normal	Normal	Normal	Normal	Normal	Normal	affected	Normal	Normal	Normal	Normal	Normal

CASE REPORT OF TWENTY PATIENTS WHO WERE TREATED IN OUT PATIENT WARD

S.N	O.P No.	Name	Age	Sex	Date of Registration	Duration of Illness	Diagnosis	Medicine	N.O.D	Result
1	34904	Rajamani	70	Male	24/6/09	1 yr	PV – Lt	1. Valladhagi chenduram 2. Mashathy thylam	42	Good
2	37731	Jackin	60	Male	8/7/09	1 mon	PV – Rt	- do -	24	Good
3	39830	Balaiah	73	Male	21/7/09	1yr	PV – Rt	- do -	39	Good
4	41628	Arumugam	50	Male	30/7/09	31/2 yr	PV – Lt	- do -	30	Moderate
5	34193	Muthukrishnnan	60	Male	20/6/09	40 days	PV – Lt	- do -	40	Good
6	40906	Jabharullah	54	Male	27/7/09	2 mon	PV – Rt	- do -	57	Good
7	32545	Madasamy	42	Male	11/8/09	8 mon	PV – Lt	- do -	32	Good
8	45430	Thilbhagathur singh	60	Male	18/8/09	2 mon	PV – Lt	- do -	20	Partial
9	43434	Ganesh	47	Male	23/8/09	6 mon	PV – Rt	- do -	20	Moderate
10	45680	Chellamal	75	Female	19/8/09	1 mon	PV – Lt	- do -	30	Good
11	44041	Govindaraj	65	male	5/8/09	4 mon	PV – Rt	- do -	31	Good
12	4048	Kanthan	55	Male	24/2/09	2 mon	PV – Lt	- do -	22	Good
13	7469	Ramar	60	Male	15/3/09	10 mon	PV – Rt	- do -	55	Good
14	14043	Bagavathy	52	Female	20/4/09	4 mon	PV – Rt	- do -	30	Good
15	13152	Murugan	55	Male	16/4/09	18 mon	PV – Rt	- do -	40	Good
16	15662	Vairavan	60	Male	28/4/09	1 yr	PV – Rt	- do -	48	Good
17	17171	Sahul hameed	67	Male	2/5/09	3 yr	PV – Lt	- do -	25	Partial
18	18416	Paramasiva nadar	65	Male	12/5/09	4 mon	PV – Rt	- do -	38	Good
19	15799	Avudaiappan	50	Male	28/4/09	10 mon	PV – Rt	- do -	46	Moderate
20	53736	Gunasekaran	69	Male	12/11/09	8 mon	PV – Lt	- do -	22	Moderate