Anti inflammatory and Analgesic activities of VAHAIPOO Albizzia lebbeck & Anti inflammatory and Analgesic activities of THISAIMUGA PARPAM

Dissertation Subject

For the partial fulfillment of the requirements to the Degree of

DOCTOR OF MEDICINE (SIDDHA)
BRANCH II – GUNAPADAM
GOVERNMENT SIDDHA MEDICAL COLLEGE
(AFFILIATED TO THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI)
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INTRODUCTION

In the New Millennium, everyone even medical legends started inclining towards the system which has a holistic approach. Our native medicine only suits and fits with perfect life style.

The Modern system of medicine cures diseases rapidly but always produces side effects.

According to Siddha theory, each and every living organism is made up of 96 thathuvas (The basic elements), any derangement in 96 thathuvas cause disease, various drugs made from herbal mineral and animal sources are used to cure these ailments.

But from the beginning of the present decade the siddha system of medicine gets a new shine as a yogical system.

Now-a-days the whole world is in a thirst to have an economical and effective therapy to rescue the people from the life threatening disease like AIDS. We need not to blow trumpt that, we are the people to do the rescue operation.
As a basic step in maintaining the grandeur of Siddha system of medicine and furnishing it, the author has analysed the drugs, which could cure “Azhal Keel Vayu” in medicinal literature of all, the author has selected “Vahaipoo” and has given a detailed study of vahaippo, its speciality, its way of curing Azhal Keel vayu in her dissertation.
AIM AND OBJECTIVE

The aim of the present work is to study the effect of Vahaipoo in the form of chooranam for the treatment of “Azhal Keel vayu”

Vatha diseases like “Azhal keel vayu” are more common in old people. The modern system of medicine Analgesics and Anti inflammatory drugs are producing side effects such as gastric irritation, Nausea etc.

So the author has selected “Vahaipoo Chooranam” for its analgesic and anti inflammatory action in clinical trials and its bio – chemical, pharmacological aspects.

The results are mentioned in the following chapters with a view to elucidate various significant aspect of this drug on modern scientific basis, so that this medicine should be found as an use for human kind as a whole.
REVIEW OF LITERATURES
BOTANICAL ASPECTS OF ALBIZZIA LEBBECK

Botanical Name:

ALBIZZIA LEBBECK

Synonyms:

Mimosa flexuosaor
M.Sirissa

Classification (Bentham and Hooker):

Class : Dicotyledonae
Subclass : Polypetalae
Series : Calyciflorae
Order : Rosales
Family : Leguminosae
Sub family : Mimosoideae

Vernacular Name:

Tamil : Vagai
English : Sirissa
Ben : Sirish
Guj : Pilo sarosio
Hindi : Siris
Habitat:

A Large deciduous tree

Root:

Tap – Root, branched.

Leaf:

Compound, evenly bipinnate, petiole Long, about 12cm with a large gland at the base of petiole, glands also often present at the base of the upper pairs of pinnas, stipules minute, linear, caducous, pinnae 3-9 pairs; upto 2-5 cm long.

Leaflets:

3-9 pairs, oblique, 2-5cm long; sub sessile, sub coriaceous, upper surface green or mottled with while glabrous, under surface, lighter, downy.
Inflorescence:

Flowers in heads which are shortly stalked and arranged in axillary clusters of 2 – 4 forming short, terminal racemes or panicles, the central flower in each head is the largest.

Flower:

Bracteate, regular, complete, actinomorphic, bisexual, hypogynous, bracts linear, tomentose, caducous fragrant.

Calyx:

5, gamosepalous, small, campanulate, pubescent, inferior.

Corolla:

5 gamopetalous, 5 lobed, greenish yellow pubescent.

Androecium:

Stamens numerous, united at the base, monodelphous, filaments 3- 5 cm, Long anthers minute, bithecous, dorsifixed, Inferior.

Gynoecium:

Monocarpellary, ovary superior, unilocular, ovules may be on the ventral suture, style slender, stigma capitate.
**Fruit:**

A pod, 7.30cm long, thin flat and straight opening along the ventral suture.

**Seeds:**

Sub – orbicular, oblong, brown very often found damaged by some insect in the closed pad.

*Angiosperms – G.L. Chopra – 223 - 224*
CONSTITUENTS:

The flowers on steam distillation gave a colourless, sweet smelling, oil (4.3% having $d_{30}^{20}$, 1.103 and $n_{D}^{20}$, 1.5284 on fractionation. The oil yielded P-nitrobenzoate, benzyle alcohol, and benzoic acid. The residue gave lupeol, α and β amyrin and a pigment similar to crocetin.

Wealth of India - 126

PHYTOCHEMICAL DATA:

Sterols, Saponins, Tannins, gum, mucilage, Rosin, wax.

Flora of Coorg - 564

MEDICINAL USES:

The plant is reported to have antiseptic, antidyseptic and anti-tubercular properties. The bark has acrid taste.

It is recommended for bronchitis, Leprosy, Paralysis and helminth infections.

The bark and seeds are astringent, useful in piles and diarrhoea and act as tonic.

The root bark and root gum are used as dental powder for strengthening the gums.

Medicinal Plants in India - 38
GUNAPADAM ASPECTS

மாற்றங்கள்:

திருவன்குடி, பாலுைணை

மாற்றக்கை:

தின்நிலைகள் வராகு வண்ணார்களுடன், மருத்துவம், மாதிரி திண்மங்கள், தோரா திண்மங்கள் வராகு வண்ணார்களுடன் பரிசு செய்யவும்.

பண்டை வளைப்படை:

தின்நிலை, பாலு, மாதிரி, மாதிரி பாலு, வுருக்கு, பிளிளை

களை:

கருப்பு, கோபுரம்

நெடுஞ்சாலை:

நெடுஞ்சாலை

பிள்ளை:

கருப்பு

சாதனக் குறிப்பிட்டு:

குண்டுப்பிறை - Astringent

சிங்கில்கிநிறாக்கி - Refrigerant
மாசக உச்ச பகுதியின் போது, பொழுதுபோழுது கால்முகப்பினை மற்றும் கால்முகப்பு பொருள்களை வைத்து பதிவு செய்யலாம்.

"நாதகத்தில் செய்யப்பட்ட கூச்சிக்கடை வைத்து, கூச்சிக்கடை வைத்து பதிவு செய்யலாம் - நாதகானந்த மணைவன் பதிவு செய்யலாம். மாசக உச்ச பகுதியின் போது பதிவு செய்யலாம்.

மாசக உச்ச பகுதியில், பட்டம் வளிமை கால்முகப்பு, முல்லை புல்லைகள், காரணி, கருமன், தீர்த்த பொருட்கள், மாசக உச்ச பகுதியில் பதிவு செய்யலாம்.

"மாசக உச்ச பகுதியில் கண்டுபிடிக்க பாதையை வாக்கி, மாசக உச்ச பகுதியில் பதிவு செய்யலாம். கால்முகப்பு வைத்து, கால்முகப்பு வைத்து பதிவு செய்யலாம்.

நாதக பதிவு செய்யப்படத் தந்து பதிவு செய்யலாம் கால்முகப்பு வைத்து பதிவு செய்யலாம் - நாதகானந்த மணைவன் பதிவு செய்யலாம். கால்முகப்பு வைத்து பதிவு செய்யலாம்.

ெஞ்சுநெறி உச்ச பகுதியில் 624
முனைகள்:

• கால்கள், விகர்கள், குழு ஆகியவற்றில் விளை புகழ்த்தை வேற்றிலும் 
  புகழ்குறை

• பாதை ஓடுக்கற்று, தூரி வசாகத்தை கம்பாக்காக, விளக்கம் செய்யவும், 
  பாதுகாப்பக்காலம், சும்முகாக்காலம் பிறந்தது

• பாதை குழுக்கள் காக்கக் காயத்த குழு விளங்குவது நீண்டுபோன்று.

• பக்கங்கள் துள்ள தில்லிய காலங்கள். வாய்ந்தது தில்லிய காலங்கள் குறுந்திட்டிக்கு

•  திருவிழாந்தூண்டு 43% ஆற்றில் அது வகைக்கார செய்து ரதசிக வீதிக்கு. இந்த 
  காட்சி அழுத்தியின் (P – nitrobenzoate).

பொறிக்கும் அமிலங்கள் (benzyl alcohol) பாதுகாப்பு பாதுகாப்பில் அமிலங்கள் 
ஆகியவற்றைப் பொறித்து. திருவிழாந்தூண்டு வகைக்கார செய்து வீதிக்கு 
சுழற்சி, அதிமுக பாதுகாப்பு பிரிவு - அடுக்கில் வாய்ந்த அது செய்து 
ஆகியவற்றைப் பொறித்து

- மாற்று துள்ள வருவாய் - 243

அசியா

A₁; A₂, A₃இங்கு மாட் ஒன்றுடன் | யார் மாடில், மாட் அங்கு டிசர்ச்சியோன்
,வெய்சுர் சிற்றர் நிலையொன்று 1, சிற்றர் 95இன்.

A₁; A₂+, சுர் தின்சு தின்சு | அது இங்கு மாட், அது அங்கு ஆன்விடு 
| வெய்சுர் சிற்றர் நிலையொன்று 1, சிற்றர் 95இன், மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு
ஆன்விடு சிற்றர் நிலையொன்று 1, சிற்றர் 95இன்.

A₁; A₂+, எல்லாவும், மாட் அங்கு, மாட் அங்கு, A₃இங்கு மாட், மாட் அங்கு, மாட் அங்கு, சிற்றர் நிலையொன்று 1, சிற்றர் 95இன், மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு

| வெய்சுர் சிற்றர் நிலையொன்று 1, சிற்றர் 95இன்.

A₁; A₂+, எல்லாவும், மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, சிற்றர் நிலையொன்று 1, சிற்றர் 95இன், மாட் அங்கு, மாட் அங்கு, மாட் அங்கு

| வெய்சுர் சிற்றர் நிலையொன்று 1, சிற்றர் 95இன்.

A₁; A₂+, A₃இங்கு மாட் அங்கு, மாட் அங்கு, A₃இங்கு மாட், மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு, மாட் அங்கு

| வெய்சுர் சிற்றர் நிலையொன்று 1, சிற்றர் 95இன்.
prae: Æœ "i, "cōō", iœ, Æœ, "āō, "āōāō, sō", Ĩyāō, Œōc sēiō, āōēāē Āēō, Òēkōō Āiñō, iAi"āñ, Xi"āōēōō ônātā sēiō, "cō kūcēīō.

Æēô, ìōõô:
praē: Æœ "i, "cōō sāiīō.
- «īēc sāōēy "ā, tōtē "k
MATERIALS AND METHODS

Drug Selection:

In this dissertation, flower of vahai was taken as single drug study and used in “Azhal Keel Vayu”

Collection of Vahai poo:

The flower was collected from raw drug store at Town.

Purification of Vahaipoo:

Vahai poo was purified by removing unwanted particles.

Preparation of Vahaipoo chooranam:

The purified poo was made into fine powder form (Chooranam) Then it was filtered by white cloth (Vasthirakayam) and preserved.

Purification of chooranam:

A clay pot was taken and was filled with equal parts of milk and water. A cloth was tied around the mouth of the pot. The prepared chooranam was placed over the cloth and then it was covered with another clay pot. The gap was covered with another cloth. This was kept on the fire until the milk level considerably decreased. Then the chooranam was taken out and dried.
Route of Administration:

Enteral

Dosage:

One gram thrice a day with hot water after meals.
BIO-CHEMICAL ANALYSIS OF VAHAI POO CHOORANAM

PREPARATION OF THE EXTRACT:

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

QUALITATIVE ANALYSIS:

<table>
<thead>
<tr>
<th>S.NO</th>
<th>EXPERIMENT</th>
<th>OBSERVATION</th>
<th>INFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TEST FOR CALCIUM</td>
<td>2ml of the above prepared</td>
<td>No White precipitate</td>
</tr>
<tr>
<td></td>
<td>extract was taken in a clean test</td>
<td>extract was taken in a clean test</td>
<td>was formed</td>
</tr>
<tr>
<td></td>
<td>tube. To this 2 ml of 4% Ammonium</td>
<td>2ml of the above prepared</td>
<td>A white precipitate</td>
</tr>
<tr>
<td></td>
<td>oxalate solution was added.</td>
<td>extract was taken in a clean test</td>
<td>was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extract was taken in a clean test</td>
<td>A white precipitate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extract was taken in a clean test</td>
<td>was formed</td>
</tr>
<tr>
<td>2.</td>
<td>TEST FOR SULPHATE:</td>
<td>2ml of the extract was added to 5% barium chloride solution.</td>
<td>A white precipitate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extract was taken in a clean test</td>
<td>was formed</td>
</tr>
<tr>
<td>3.</td>
<td>TEST FOR CHLORIDE</td>
<td>The extract was treated with silver nitrate solution.</td>
<td>A white precipitate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>extract was taken in a clean test</td>
<td>was formed</td>
</tr>
<tr>
<td>4.</td>
<td>TEST FOR CARBONATE</td>
<td>The substance was treated with concentrated HCL.</td>
<td>No brisk effervescence was formed</td>
</tr>
<tr>
<td>S.NO</td>
<td>EXPERIMENT</td>
<td>OBSERVATION</td>
<td>INERENCE</td>
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<tr>
<td>5.</td>
<td>TEST FOR STARCH</td>
<td>The extract was added with</td>
<td>No blue colour was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weak iodine solution.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>TEST FOR IRON-FERRIC</td>
<td>The extract was treated with</td>
<td>No blue colour was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glacial acetic acid and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>potassium ferro cyanide.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>TEST OF IRON FERROUS:</td>
<td>The extract was treated with</td>
<td>Blood red colour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>concentrated nitric acid and</td>
<td>was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ammonium thio cyanate</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>TEST FOR PHOSPHATE</td>
<td>The extract was treated with</td>
<td>No yellow precipitate was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ammonium molybdate and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>concentrated nitric acid</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>TEST FOR ALBUMIN</td>
<td>The extract was treated with</td>
<td>No yellow precipitate was formed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Esbach’s reagent</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>TEST FOR TANNIC ACID</td>
<td>The extract was treated with</td>
<td>No blue black</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ferric chloride</td>
<td>precipitate was</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>formed</td>
</tr>
<tr>
<td>S.NO</td>
<td>EXPERIMENT</td>
<td>OBSERVATION</td>
<td>INFEERENCE</td>
</tr>
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</tr>
<tr>
<td>11.</td>
<td><strong>TEST FOR UNSATURATION</strong></td>
<td>It got decolourised</td>
<td>Indicated the presence of unsaturated compound</td>
</tr>
<tr>
<td></td>
<td>Potassium permanganate solution was added to the extract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td><strong>TEST FOR REDUCING SUGAR</strong></td>
<td>Colour change occurred</td>
<td>Indicated the presence of Reducing sugar</td>
</tr>
<tr>
<td></td>
<td>5ml of Benedict’s qualitative solution was taken in a test tube and allowed to boil for 2 mts and added 8 – 10 drops of the extract and again boiled it for 2 mts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td><strong>TEST FOR AMINO ACID:</strong></td>
<td>Violet colour was formed</td>
<td>Indicated the presence of Amino acid</td>
</tr>
<tr>
<td></td>
<td>One or two drops of the extract was placed on a filter paper and dried it well. After drying, 1% ninhydrin was sprayed over the same and dried it well.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PHARMACOLOGICAL STUDIES

ANALGESIC STUDY OF VAHAIPOO CHOORANAM

BY TAIL FLICK METHOD

Introduction:

According to Siddha Medicine the vahaipoo chooranam is indicated in vatha diseases. From this indication the drug vahaipoo chooranam might possess analgesic activity.

Aim:

To study the analgesic effect of vahaipoo chooranam on albino rats by tail flick method.

MATERIALS AND METHODS:

Preparation of the test Drug:

1gm of Vahaipoo chooranam was suspended in 10ml of hotwater as suspending agent. This 1ml contained 100mg of the test drug.

Equipment: Hotwater bath

Procedure:

Six male albino rats (weighing 80 – 100gms) were used in three groups. The animals were allowed free to access 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 within 2 seconds, they were divided into 3 groups, each group consisting of 2 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 given the vahaipoo choorananam dose of 100mg/100gm body weight of the animal.

Second group was administered with paracetamol at a dose of 20mg / 100gm of body weight. Third group was given 1ml of water and kept as control.

After the drug administration, the reaction time of each rat after ½ an hour, 1 hour and 1½ 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.


Study of Analgesic effect of using the drugs of - VAHAIPOO CHOORANAM

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100 gram body weight</th>
<th>Initial Reading</th>
<th>After Drug Administration</th>
<th>Mean Difference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vahaipoo chooranam</td>
<td>100mg / 1ml</td>
<td>3.0 sec</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0 sec</td>
</tr>
<tr>
<td>2.</td>
<td>Paracetamol</td>
<td>20mg/ml</td>
<td>3.0 sec</td>
<td>4.0</td>
<td>5.0</td>
<td>6.5sec</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>2.5sec</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5sec</td>
</tr>
</tbody>
</table>

**Inference:** The test drug Vahaipoo Chooranam has mild analgesic activity.
ANIT INFLAMMATORY STUDIES

Acute Anti – inflammatory studies Carrageenan induced Hind paw oedema Method.

Introduction:

In Siddha texts, Vahaipoo chooranam is indicated in the condition of Vatha -disease. So the following pharmacological studies have been done.

Method:

Carrageenin induced Hindpaw oedema method in albino rats.

Aim:

To evaluate the acute anti-inflammatory effect of vahaipoo by carrageenin induced oedema method in albino rats.

Drug Preparation:

1gm of Vahaipoo chooranam was suspended in 10ml of hot water. Hot water was added for dissolving the test drug. This 1ml contained 100mg of the test drug.

Procedure:

Six healthy albino rats of either sex weighing between 80 -100gm were selected. The volume of each hind paw was measured by using the mercury plethysmograph.
After the measurement of hind paw of all the rats, they were divided into three groups, each groups containing two rats.

First group was given test drug vahaipoo chooranam at a dose of 100mg / 100gm body weight of the animal. The second group was given Ibu brufen 20mg / 100gm of body weight and the third group was kept as control by giving distilled water of 1ml / 100gm of body weight.

All the animals were given 0.1ml of 1% (w/v) of carrageenin / suspension which was injected subcutaneously in the plantar surface of hind paw of rats.

Three hours after carrageenin injection, the hind paw volume was measured, using mercury plethysmograph. From the differences in the initial and final hind paw volume; the degree of the inflammation was calculated by taking the volume in the untreated control group as 100%.

The percentage of inflammation of the other group was calculated from the degree of the anti-inflammatory effect of the treated and the test groups were calculated.
Study of Acute Anti – Inflammatory by Carrageenin induced hind paw Oedema method using Plethysmograph using the drug of Vahaipoo chooranam

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100gm body weight</th>
<th>Initial Reading average</th>
<th>Final reading average</th>
<th>Mean Difference</th>
<th>Percentage inflammation</th>
<th>Percentage inhibition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vahaipoo Chooranam</td>
<td>100mg / 1ml</td>
<td>0.75</td>
<td>1.3</td>
<td>0.6</td>
<td>75.0</td>
<td>25.0</td>
<td>Mild Action</td>
</tr>
<tr>
<td>2.</td>
<td>Ibu Brufen</td>
<td>20mg/ml</td>
<td>0.8</td>
<td>0.85</td>
<td>0.05</td>
<td>6.25</td>
<td>93.75</td>
<td>Good</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>0.6</td>
<td>1.5</td>
<td>0.80</td>
<td>100.00</td>
<td>-</td>
<td>No.</td>
</tr>
</tbody>
</table>

**Inference:** The test drug Vahaipoo Chooranam has **mild acute anti-inflammatory activity**
Aim:

Chronic anti-inflamatory effects of vahaipoo chooranam.

Drug Preparation:

1gm of vahaipoo chooranam was suspended in 10ml of hot water. Hot water was added for dissolving the test drug.

Procedure:

Six healthy albino rats weighing 100 – 150 gms were taken and divided into three groups, each group consisting of two rats.

In this procedure the drug was given daily for 7 days. Before giving the drug cotton pellets each weighing 10mgm were prepared and sterilized in the autoclave for about one hour under 15 Hg atmospheric pressure.

On the day of experiment, each rat was anaesthetised with ether to implant 10 mgm of sterilized cotton pellets subcutaneously in the lower abdomen of two on each side after making suitable incision and sutured carefully.
The first group of animals were given the test drug, vahaipoo chooranam in a dose of 100mg / 100gm of body weight. The second group was given Ibu-brufen at a dose of 20mg /100gm body weight. The third group was kept as control group by giving distilled water of 1ml / 100gm of body weight. On the 8th day of the experiment, all the rats were sacrificed and cotton pellets surrounded by granulation tissues were removed and dried in hot air oven at 55°C - 60°C.

The concordant weight of granuloma for control group and treated group give an estimation of degree of inhibitory activity of test drug.
# Study of Chronic Anti-inflammatory effect by Cotton Pellet method using the Drugs of Vahaipoo chooranam

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100 gram body weight</th>
<th>Pellet weight</th>
<th>Pellet weight of the Granuloma of drugs</th>
<th>Mean difference</th>
<th>Percentage inflammation</th>
<th>Percentage inhibition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vahaipoo chooranam</td>
<td>100mg /1ml</td>
<td>10mg</td>
<td>165</td>
<td>-</td>
<td>66</td>
<td>34</td>
<td>Mild Action</td>
</tr>
<tr>
<td>2.</td>
<td>Ibu Brufen</td>
<td>20mg/ml</td>
<td>10mg</td>
<td>56mg</td>
<td>-</td>
<td>22.4</td>
<td>77.6</td>
<td>Good</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>10mg</td>
<td>250mg</td>
<td>-</td>
<td>100.0</td>
<td>-</td>
<td>No.</td>
</tr>
</tbody>
</table>

**Inference**: The test drug has got **Mild action**.
ANTI – PYRETIC ACTIVITY ON ALBINO RATS

BY

BEWER YEAST METHOD

Aim:

To study the anti – pyretic activity of Vahaipoo chooranam.

Procedure:

Six albino rats were selected each weighing about 100 – 150gm and divided into 3 groups, 2 rats in each group. All the rats were made hyperthermic by subcutaneous injection of 12% suspension of yeast at a dose of 1ml / 100gm of body weight. 10 hours later, the first group was given test drug orally at a dose of 100mg /100gm of body weight. Second group was given paracetamol 20mg /100gm of body weight. The third group was given distilled water orally at a dose of 1ml / 100 gm of body weight.

The mean rectal temperature for the 3 groups were recorded at 0 hour, 1.30 hours, 3 hours and 4.30 hours after the administration of drugs.

The difference between the mean temperature of the control group, the standard group and that of drug group was calculated and tabulated.
### Study of Anti pyretic by yeast induced method using the drugs of Vahaipoo chooranam

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100 gram body weight</th>
<th>Initial Temperature in centigrade</th>
<th>After Drug Administration</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vahaipoo Chooranam (3 Rats Average)</td>
<td>100mg / 1ml</td>
<td>37.0°C</td>
<td>37.0</td>
<td>36.5</td>
</tr>
<tr>
<td>2.</td>
<td>Paracetamol</td>
<td>20mg / 1ml</td>
<td>36.5°C</td>
<td>35.5</td>
<td>35.0</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>36.5°C</td>
<td>36.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>

**Inference:** The Test drug has got moderate action.
CLINICAL ASSESSMENT

Azhal keel vayu is a disease mainly affecting the major weight bearing joints. Normally this is change in the joints at certain age group.

It affects mainly the knee joints, which do a lot of functions like flexion, extension and rotation etc.

In order to assess the efficacy of the drug vahaipoo chooranam for Azhal Keel vayu it was tried clinically on 40 patients of both from the inpatient and out patient department of the Government Siddha Medical college hospital, Palayamkottai.

Patients above age 40 years were selected for clinical trial. Both sexes were selected from out patient and inpatient out of 40 cases 10 cases were inpatients and 30 were out patients.

Patients with the symptoms of pain, swelling, stiffness, difficulty in walking etc were selected.

Routine investigations were done mainly with radiological findings.
Criteria for case selection

- Pain
- Age above 40 years
- Swelling
- Measurement done
- Stiffness
- Limitation of movement
- Crepitation of the joints
- Routine investigations
- ‘X’ ray knee joint for both diagnosis and prognosis
- Signs and symptoms vary in its severity from patient to patient.

Excluding criteria

Sudden onset of excruciating pain, marked swelling and redness of the big toe

- Younger age group
- Migrating joint pain
- Evening raise of temperature, Loss of weight.
- Haemorrhagic effusion.
Line of Treatment

Vahaipoo chooranam was administered orally in a dose of 1gm thrice a day with water after meals for each case 20 – 40 days.

Routine investigations were done before and after treatment. Radiological investigation was also done before and after treatment. For IP patients, time was noted for walking to a distance of 100 feets, on admission and after treatment.

The duration of treatment varied according to the severity of signs and symptoms.

Medical Advice

- They were advised to avoid foods like tubers, dhal, curd etc. which would increase the vatha kuttram.
- Advised to take vegetables and easily digestable foods.
- Avoid cold damp climate.
- Obese patients were advised to reduce their weight in order to avoid stress.
- Advised to take rest but prolonged immobilization should be avoided as it leads on the suffering of the point and further incapacitate the patient to walk.
Exercise for Strengthening Muscles around the knee joint

Simple exercise that promote flexibility and strengthen the muscles around the knee can go long way towards warding off problems. In many cases, these exercise can also help hasten recovery after a knee injury. Weak or tight muscles are an important cause of knee injuries.

Hence, it is advisable to make the time and effort to strengthen the muscles around the knee. However, if one is already suffering from pain in the knee, these exercise should be performed after consulting a doctor. To derive maximum benefit from the following exercise, they should be performed once or twice a day, repeating every exercise five to ten times for each knee.

Thigh Firmer:

Sit on the edge of a chair with one leg stretched out in front and the heel resting on the floor, tighten the muscle that runs across in front of the knee by flexing the toes back. Simultaneously, push the back of the knee
towards the floor and feel the stretch there as well as at the back of the ankle. Hold for 5 seconds. Repeat the same with the other leg.

**Knee flexion and extension:**

Sit straight on chair and bend the knee by pulling heel under the chair. Rest the foot on the toes. Hold for 5 seconds. Keep the foot relaxed and slowly raise it up to straighten the knee. Hold for 5 seconds and then slowly lower the foot to the floor. Repeat the same with the other leg.

**Straight Leg lift:**

Lie flat on the back with the stomach pulled in, the knee of one leg bent and the foot flat on the floor. Extend the other leg and lift it slowly as far as it is comfortably possible, without bending the knee. Hold for 5 seconds and slowly lower the leg. Repeat the same with the other leg.
Response:

Among the 40 patients

Good Response - 80%
Fair Response - 15%
Poor Response - 5%

TABULATION SHOWING RESPONSE

<table>
<thead>
<tr>
<th>Result</th>
<th>No.of.Case</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete relief</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td>Partial relief</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>No relief</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
DISCUSSION

The therapeutic efficacy of vahaipoo chooranam in the disease of Azhal Keel vayu related by exploring pharmacological action like anti – inflammatory, analgesic, through clinical trial.

From literatures information, the author has come to an ideas about vahaipoo chooranam and it efficacy of Azhal Keel Vayu.

In pharmacological studies this drug had mild analgesic, mild acute , chronic anti – inflammatory and moderate antipyretic action. It helps to relief of pain (Analgesic) and reduce the inflammation (anti – inflammatory) in soft tissues.

Biochemical analysis showed that the drug vahaipoo chooranam contains sulphate, chloride, ferrous iron, unsaturated compound, reducing sugar and amino acid.

In our clinical studies, no adverse reactions were reported during the administration of this drug.

About 40 patients with Azhal keel vayu were taken in this study. Among them

Good response – 80%
Fair response – 15%
Poor response – 5%
SUMMARY

The vahaipoo chooranam has been taken for study to establish its efficacy in Azhal Keel Vayu.

The pharmacological analysis established that the drug has got mild analgesic, mild acute, chronic anti inflammatory and moderate antipyretic activities.

Biochemical analysis of the drug has got sulphate, chloride, Ferrous iron, unsaturated compound, reducing sugar and aminoacid.

The main symptoms like pain, swelling and tenderness were taken. The drug was given to the patients for 15 – 40 days for the clinical assessment. It is inferred that the vahaipoo chooranam gave satisfactory results in treatment of Azhal Keel vayu during the clinical trial. The drug had no adverse reactions.
CONCLUSION

It is concluded that the drug Vahaipoo chooranam (Albizzia lebbeck) has got mild analgesic, mild acute, chronic anti-inflammatory action and moderate anti pyretic activities and clinically very effective drug in “Azhal keel vayu”.
INTRODUCTION

The siddha system of medicine has been in practice in our country since time unknown. Siddha is not considered to be merely a compendium of therapeutics based on herbal mineral and animal resources but it is claimed to be the philosophy of life and living.

From the beginning of the universe all living things get into the cycle of birth and death. In between this period they struggle for their existence of life.

Siddhars are who removed the sins and sorrows of human beings and they taught the way of well being.

The aim and intention of all the Siddhar’s were not only to cure the disease but also to show the way of retaining the soul to reach the eternal power through various steps including Ashtanga yogam. In addition to the medicines, they have also dealt with various subjects such as astrology, philosophy, vedic principles etc

The foremost principles of our system of medicine is the ‘Pancha Bootha Theory”. It is said that this universe is composed of pancha bootha viz, mann, neer, thee, vayu and aagayam like wise our human body is also made up of these pancha boothas. They in combination with one another form the three vital humours vatham, pitham, kabam. Hence any alteration
in the panchaboothas causes the derangement in the mukkutram ending in a disease.

This disease was set right by siddhars through medicines derived from herbs, minerals, metals and even living organisms also.
AIM AND OBJECTIVE

The disease Azhal keel vayu produce tremendous pain, discomfort and more complications to the patients. The purpose of the author is to elucidate a good medicine from ancient siddha literatures and to create hope and faith in their treatments. This being a preliminary endeavor by the author, so that it would be a helping hand to the sufferers. With this view, this dissertation subject was undertaken.

1. To bring out the siddha literary evidence regarding the trial drug.
2. To have a clinical trial on Azhal keel vayu with Thisaimuga parpam.
3. To have a detailed clinical investigations.
4. To evaluate the Bio-chemical analysis of the trial drug.
5. To evaluate the pharmacological analysis of the trial drug.
6. To use modern parameters to confirm the diagnosis and prognosis of the disease.
## REVIEW OF LITERATURES

### A. GUNAPADAM ASPECTS

#### Vernacular Names:

<table>
<thead>
<tr>
<th>Language</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sans</td>
<td>Saidhava</td>
</tr>
<tr>
<td>Eng</td>
<td>Rocksalt, seasalt, Baysalt sodium chloride</td>
</tr>
<tr>
<td>Arab</td>
<td>Milhetabazard</td>
</tr>
<tr>
<td>Pers</td>
<td>Namakesang</td>
</tr>
<tr>
<td>Hind</td>
<td>Sendhaloaon : Sedlalon</td>
</tr>
<tr>
<td>Duk</td>
<td>Sodanimak</td>
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<tr>
<td>Guj</td>
<td>Sindhaluna</td>
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<tr>
<td>Tel</td>
<td>Saindhalavanam</td>
</tr>
<tr>
<td>Tamil</td>
<td>Induppu</td>
</tr>
<tr>
<td>Can</td>
<td>Kon &amp; Mah Sendhur lavena</td>
</tr>
<tr>
<td>Mal</td>
<td>Intu –uppu</td>
</tr>
<tr>
<td>Ger</td>
<td>Natrium chloricum</td>
</tr>
</tbody>
</table>

Indian Materia Medica – 108 - 109
கம்ப (சுருக்கம்):

சுருக்கிய திறன், நட்புபாடல் (200கி) புத்துரைகள் மிதியுடன் கதப்பர்கள் போட்டிகள், பிட்டிப்பில் நார் பொன் அறுவாங்கல் நிறுவனம், காந்தவரண அம்பில் மீட்சு தங்கத்து கருந்தாயிருப்பு அங்குள், பெண் சிறந்தன . அறுவாங்களின் தம்பூப்பு 5 பொன், இழந்தகாலம் 5 பொன், பெண் 3 பொன் தம்பூப்பு பேரங்களுக்கு காவி உருங்கை செரியான நிறுவன விளக்கம் கருந்தாயிருந்து அங்குள், உடல்காலத்து பார்க்கி மாற்ற விளக்கம்

கருத்தில்:

சிற்றுக்காக சுருக்கியது புத்துரை ஆப்பிராமயம், கால்வாசிலாத நதீசுவியம், சுருக்கிய நூற்றாண்டு.

சான்று கருத்தில்:

மனையார், ஏற்றும் வர்த்தத்தை எழுதியது, புத்துரைகளானது.

பாடல்களத்துக்கும்:

"உங்கள் ஆலயம் முள்ளாம் அறுவாங்கள்தை கொண்டு காணக்
தீர்க்கவே மற்றும் புத்துரையும் - பகத்தம்
சீந்தீத விளக்கங்களும் காப்பியல்பான
சீந்தீத விளக்கம் விளக்”

பாடல்கள்:

சுருக்கியபொறியால் பாடலக்குரியது சூடும், சாதூரம், அறுவாங்கள், குற்றுக்குலம், காய்திகள், கருந்தாயிருந்து, கிளைந்தரும், பேரங்கள், கூட்டும், காய்களில் குற்றுக்கு, காய்திகள், காய்வு, காலங்கள், கால்வாசிலாத, நூற்றாண்டு காவி உருங்கை

42
- Ǐstartswith a capital letter. It is important to start sentences with a capital letter.

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இருந்துப் பேப்பு பிரிவுகள்:

- இருந்துப் புலவர்:
  இருந்து புலவர் - 278

- காத்திருப்ப இராசனியம்:
  இருந்து புலவர் - 278

- தமிழ் குறள் குறிப்பிட்டுகள்:
  இருந்து புலவர் - 279

- செயற்கைக் குறிப்பிட்டுகள்:
  புச்சை, "அங்கா அழைக்கா அ் பா - 92

- போர்ச்சியிக் குறிப்பிட்டுகள்:
  புச்சை, "ஒர் முற்பா - 103

- குரு சாதனம் வரலாறு குறிப்பிட்டு:
  " புச்சை "அங்கா போன் - 73

- குமார குறிப்பிட்டு:
  புச்சை, "அங்கா முற்பா அ் பா - 212

- புராண தொலைபெட்டு:
  இருந்து புலவர் - 304

- செயற்கைப்பாலை குறிப்பிட்டு:
  புச்சை, "அங்கா உயரள அ் பா, அ் - 52
ROCK SALT
Chemical Aspect

Source:

Found in nature in extensive beds mostly associated with clay and calcium sulphate. To obtain it, holes are dug into these rocks which soon become filled up with salt water. The water is evaporated and the salts are left ready for use.

Characters:

It is found in small white crystalline grains or transparent cubes. It is brownish white externally and white internally. It has a pure saline taste and burns with a yellow flame.

Action:

In small doses it is highly carminative, stomachic and digestive. It promotes the appetite and digestion. In large doses 4 – 8 drachms it is an emetic. Rock salt possesses stronger purgative properties than cream of tartar.

Uses:

It is given in dyspepsia and other abdominal disorders. To rouse digestion weakened by diarrhoea, rock salt yavakshar (alkali - pottassium carbons impura) is given in convalescence, when heated it is used to foment painful swollen.

The Indian Materia Medica 108 - 109
Vernacular Names

<table>
<thead>
<tr>
<th>Language</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arab</td>
<td>Abkar, Clbkir</td>
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<td>Persi</td>
<td>Shoraha, shore</td>
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<td>Hin &amp; Guj</td>
<td>Shora</td>
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<tr>
<td>Maharastra</td>
<td>Shora – mitra</td>
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<tr>
<td>Telugu</td>
<td>Patlu – uppoo</td>
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<tr>
<td>Chitloo</td>
<td>Bhusmoo</td>
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<tr>
<td>Tamil</td>
<td>Pottil uppu</td>
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<tr>
<td>Mal</td>
<td>Veti – uppu</td>
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<tr>
<td>Can</td>
<td>Patluppu, Sendur lavana</td>
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<tr>
<td>Kon</td>
<td>Sinaur lavana</td>
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<tr>
<td>Sinhi</td>
<td>Pothunu</td>
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<td>Malay</td>
<td>Sundawa</td>
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<tr>
<td>Burma</td>
<td>Yand zeing</td>
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</table>

- *The Indian Materia Medica – 91*
Organoleptic characters:

<table>
<thead>
<tr>
<th>கலை</th>
<th>கருப்பு</th>
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<tbody>
<tr>
<td>நானூன்</td>
<td>ஒளிப்பு</td>
</tr>
<tr>
<td>பிள்ளை</td>
<td>கருப்பு</td>
</tr>
<tr>
<td>பருள்</td>
<td>சிவப்பு, மஞ்சள் முட்டையல், மிளகும்</td>
</tr>
</tbody>
</table>

- உவரியோ ஷி பா ஆடோ -

அடைப்பு:

“மூழையா மாற்றால் பூர்த்தாக உள்ளது
கனவு மலர் புன்னிக் கல்வு - சீலைப்போன
குறிப்பிட்டிய பெண்புரிதம் குறைக்கலாம் மூட்டிராண்
குறிப்பிட்டிய பெண்புரிக்கும் காட்டு”

செய்தி குருவும், குறுநான்கன்கள், சைவன், புனிதக்கிருட்டும், புனித குருவும், குறுநான்கன்கள் கட்டு பிக்க கு குறைக்கலாம், புண்டுபில் , கருப்பு காண விளையிப்பு. பெண்புரிய பெண்புரிக்கும் மலர்கள் காண செஞ்சல்.

அடைப்பு குறிப்பிட்டு:

தமயா கருத்தா பெண்புரிக்கும், சைவ சிவால் மலர்களுடைத்து குடையம் நிறமாக குறைக்கும், குறைக்கும் தொன்றும் பிரிவு இறைவிக்கின்ற குறைக்கும் அடைப்பு காண்கும் செந்து.

புத்தோ புத்தோ பியிர் பார் பார் பார் .., பார் பார் பார் .., பார் பார் பார் .., பார் பார் பார் ..
48

-அங்கி, என்னும் குறிப்பிட்டல்:

- குறிக்குறிய உருசியப் பதிப்பு:

- முக்கிய குறிப்பிட்டல்:
acakõ ñìë fëå àìòò
d. \textbf{சார்க்கள்} 

«ுசாி, "அத்யாத்த தற்போதையை 30 ஆி, 0 - 82

d. \textbf{தமிழ்ப் முறைத்தியம்:}

«ுசாி, "அத்யாத்த தற்போதையை 30 ஆி, 0 - 79

d. \textbf{தமிழ்ப் செய்திகள்:}

«ுசாி, "அத்யாத்த தற்போதையை 30 ஆி, 0 - 77

d. \textbf{தமிழ்ப் மேம்:}

«ுசாி, "அத்யாத்த தற்போதையை 30 ஆி, 0 - 81

d. \textbf{தமிழ்ப் முன்னெடுக்கு விளக்க:

«ுசாி, "அத்யாத்த தற்போதையை 30 ஆி, 0 - 82

d. \textbf{தமிழ்ப் முறைத்தியா:}

 índi; %ìò fëå àìòò - 334

S.R.Pharmacopia 134
«Úsái, "Àòx¿À øÀáëëí 3ë Àí, ö - 81
POTASSIUM NITRATE
CHEMICAL ASPECT

Preparation of potassium Nitrate:

1. From chile salt petre:

A mixture of chile salt petre and potassium chloride in Molecular proportions is dissolved in minimum quantity of boiling water.

\[
\text{NaNO}_3 + \text{Kcl} = \text{KNO}_3 + \text{Nacl}
\]

As the solution is kept boiling, water evaporates and more sodium chloride separates out. When enough of sodium chloride has been separated, the solution is cooled to crystallize out potassium nitrate.

2. From Crude Indian Salt petre:

The crude salt is dissolved in water, filtered, and concentrated. When allowed to stand the deposit form crystals of potassium nitrate. These may be further purified by crystallization.

Text book of Inorganic Chemistry 133

Potassium nitrate, also known as nitrite (or) salt petre is manufactured by mixing hot, concentrated solution of sodium nitrate, chile salt petre and potassium chloride

\[
\text{NaNO}_3 + \text{Kcl} \rightarrow \text{Nacl} + \text{KNO}_3
\]
As sodium chloride is not very soluble in hot water, the bulk of it is precipitated. The hot liquor is separated from the sodium chloride and when allowed to cool, fairly pure potassium nitrate crystallizes out. It can be further purified by recrystallization.

This process may be better understood by comparing figures for the approximate solubilities of the compounds concerned (gram per 100gms of water)

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>NaNo3</td>
<td>85</td>
<td>Very soluble</td>
</tr>
<tr>
<td>KCl</td>
<td>34</td>
<td>56</td>
</tr>
<tr>
<td>NaCl</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>KNO3</td>
<td>31</td>
<td>Very soluble</td>
</tr>
</tbody>
</table>

_Nitrate are salts derived from nitric acid. They are all acids and all are soluble in water._

_Text book of Pharmaceutical Chemistry - 222

Chemistry in today’s world - 377._
குறிப்பிட்டு பல்பரை

கல் குறிப்பிட்டு, பசுப்பு, அறும் காலம், அமரம், உம்மாம், பிருஞ்சு, அம்மையலயல், பொக்கல், போன்ற நம்பிக்கை, குறிப்பிட்டு, பிருந்தும் ராகம், துருவு, குறிப்பிட்டு அமரவாம்.

பாரதமானம்:

"ஆற்று குறை பாரதமானம் பிருந்தும் குறிப்பிட்டு

பாரதமானம் பாரதமானம் பிருந்தும் பாரதமானம்

பரதமானம் பாரதமானம் பாரதமானம்"

பாற்றாம்:

குறிப்பிட்டு கல், குறிப்பிட்டு, அறும், பிருஞ்சு, அமரம், அமையலயல், பொக்கல், போன்ற நம்பிக்கை, குறிப்பிட்டு, பிருந்து ராகம், துருவ, குறிப்பிட்டு அமரவாம்.

இதை நமது மீது ஆரம்பிக்க செய்யலாம்
குண்டுப்பற செய்யப்:

"கால்நடைமுறை குறுவிய பிருவக்கர்
குமாரக்கு செய்யப்
கால்நடைமுறை குறுவிய பிருவக்கர்
பார்வூரிய குறுவிய பிருவக்கரும்
கால்நடையானது அரவிந்திரியின் புகழ்
அரவிந்திரியின் பார்வூரிய குறுவிய
குண்டுப்பற செய்யப் பிருவக்கர்கள்!"

இல்லை:

"இருக்ளன்", -தோ, ,நீதியு ஆடநட்பீடு  ஆடங்கீடு போக்கும் முக்கியம் அசொபு
ஸுரே +தோ, முன்னின் இருவேற்று இருக்கின்று போஸ் +தோ, அருளி|அருள் போஸ்
-தோ,"ச |அம் |மாழ் ,அ இந்த அச்சு|அருள் போஸ் முக்கியம். முன்னின் ,சூட்டி
இத்போ வோண, +தோ கோள் ,சோட்டுக இத்தோ போஸ் முக்கிய அச்சு, தோ |சூட்டு, சிறு +காப்போ".

"ஆயே -சோரிய சோட்டு ஓன்
ஆயே |சோரிய ஓன், துக்கு +சிறு
, |சோரிய ஆசோ |கோடிய கோடிய முக்கிய அச்சு +சோரிய
-உங்கள் போஸ் முக்கிய
-சோரிய போஸ் முக்கிய
c |
, |சோரிய முக்கிய
c |
, |சோரிய போஸ் முக்கிய
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c |சோரிய போஸ் முக்கிய
c |சோரிய போஸ்
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"பிரிவு "அந்தா அசாள் க, " - 92

"பிரிவு "அந்தா ஆட்சி அண்டை 80 க, " - 52

"பிரிவு "ஙடா "அந்தா சேற்றை 80, " - 103

"பிரிவு "சோ "அந்தா செம்மா 73
• ஸபூர் சுருக்கம் :

  வுல்லா "அம்மா ராமா ஆ, ராமா - 212

• வரணாய்க்குட் முன்னிலைநர் :

  மூ, மூ; நடு நண்டு - 188

• மை வட்ட சமத்து :

  இரா; ரா; இரா ஫்ளாமா; சாஸ்க்கு - 304
SODIUM CHLORIDE

Chemical Aspect

Salt is the name given to the varied natural and industrial forms of Sodium chloride (NaCl₂) with 39.4% Sodium, 60.6% chlorine, but it is often found mixed with small quantities of magnesium, calcium, potassium, components etc.

Salt is very widely distributed and abundant salt acquired as extensive deposit of rock salt as salt solution or brines an efflorescent earthy crust and also as sublimation product near volcanoes of these types. The first two are of commercial importance. Rock salt acquires in sedimentary rocks.

Rock salt is the mineral form of sodium chloride (NaCl₂). Rock salt acquires in crystalline, massive, and granular to compact form. It is a brittle mineral with a concordat fracture and vitreous luster. It is colourless, when it is pure. But often tinged with gray, blue, brown, pink in colour, because of its associated impurities.

Rock salt is found most commonly as deposits in sedimentary rocks, such as sandstone, shale and limestone, often interstratified with other materials such as gypsum anhydrite dolomite etc.,
Formation:

Bedded deposit of Rock salts are formed by the gradual evaporation and altimeter drying up of the isolated lagoons bays in arms of seas partially or wholly by bars or shills.

Distribution:

In India the rock salts are mainly mixed from Himachal pradesh and small amounts from Gujarat.

Properties:

Salt is a soft, water soluble compound having a characteristic salty taste. The smaller quantity perceptible to taste is 68 grains of salt dissolved in a gallon water.

Molecular weight 58.45.

Its cristal humidity is 75.3 % at 20°C.

Rock salt is plastic and flows slowly under great pressure. The viscosity of rock salt is $10^8$ poises at $18^0$C and $10^{17}$ at $80^0$ C.

The solubility of salt (Expressed as gm Nacl /100gm, Solvent at $25^0$C) in water is 35.7gm/100gm of water at $0^0$C and 39.89% 100gm of water at $100^0$C.
The salt solution is essentially neutral and dissolution of salt in water is endothermic.

The vapour pressure of standard salt solution is 13.2mm Hg at 20°C, 69.5 at 50°C, 75.0 at 70°C and 39.6 at 90°C.

Salt is not decomposed by heat, but crystals containing fluids or gases decrepitated at moderately high temperature.

The specific heat is 0.204, Heat of fusion is 123.59 cal gm salt possess a high degree power of staying decomposition in dead organisms the commonest of all preservatives.

*Inorganic Chemistry*
Gunapadam aspects:

Vernacular Name:

Sans : Sarjikakshara
Eng : Washing soda, Crude carbonate of soda
Pers : Shikhara, Tine qazur
Arab : Tile – miahul – gile.
Hindi : Guj Majh and kon.
Duck : Courka – namak. Sajjion
Telungu : Savite - mannupu Sanchhikaram
Tamil : Choonto – munnoo Sanchhikaram

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அப்படி:

முயற்சியாகிறார்களால், அவர்களுடன் அப்படி, காலகாராக, சிற்றிய பாதகன்

பாடல்வாழ்க்கை:

"அல்லாஹ்வுக்கு வரும் விளக்கங்கள் வாழ்க
அல்லாஹுல் தான் வருகையுடைய இறைவனும்
அல்லாஹுல் தான் வருகையுடைய இறைவனும்
மாற்றாக்கம்”

அப்படல்வாழ்க்கையுடைய விடைகள், குருத்தநீக்கம், பாதுகாப்பு, சுற்றுள்ள வாழ்க்கை,

சத்தியம்:

இரு விலங்குகளுக்கு வரும் விளக்கங்களைத் தந்து, விளக்கங்களைக் குறிப்பிட்டு வரும

பாதுகாப்புகளுக்கு திறக்கி வாழ்க்கையுடைய விளக்கங்களை விளக்கங்களை

பிரித்தம்:

ஆல்லாஹுளை புனிதம் முயற்சிக்கும்

சாமசன் பிரித்தம்: 2-குறுகை

சிறியப் பிரித்தம்: மட்டுமே

புனிதப் பிரித்தம்: அதனாலே

குற்றங்கள்:

அப்படல்வாழ்க்கையுடைய விளக்கங்களை விளக்கங்களை வருங்கள் வருமாறு விளக்கங்கள்.
-ANGÁ: 

2.1, TÀI ÔÇ 4.2, TÀI "DÀGÍ, ÍÔ°¾ ÑÁ‡È ÆØ | ÓÊ远程 ÝÁÔ, Áñàüòó°ó, ÆØ, ÊÝÀÈ, Ó, ÍÝ Ó ÏÖ ÔÇÁÁÈ æÉÈ. 

±ÔÁÇÍ°Ô ÉÈ°•¿ ÐÀÌÃÀI, ÔÇ ÍÔ°¾, ÔÇ ËÇÍ, Ô ÍÔ°¾ ¿Á DÁÇÍ, ÍÔ | DÀÁÈÒ Ô ÔÇÉ, ÔÇ ÉÈÍ, DÁÇÉ ¿É ÔÔÈ, ÔÇ ÁÇÁÀI, Ó ÔÇ ÌÔ ÔÇÉ ÐÈ ÐÀÁ "Á", Ô "ÁÁÇÓ ÍÔ°¾ÁÔ | ÓÊ ÍÔ ÍÔ ÓÁÍÈÓ. ÒÉÉÇ ÎÔ°È | ÍÔ ÍÔ ì È. ÒÉÉÇ ÍÔ ÍÔ æÉÈ.

ÇÉÈ: 

ÇÉÈ: ÍÔ°È ÁÇÁÀI ÍÔ°¾ ÔÔÈ, ÒÉÉÇ ÔÇÈ ÁÇÁ "Á", ÔÇÉ ÍÔ ÍÔ ÍÔ ÍÔ | ÓÊ ÍÔ ÍÔ, ÔÇ"A "AÇÁ ÀÇÈ ÍÔ°¾ ÀÇÈ À;Ô°È æÉÈ.
SODIUM CARBONATE

Chemical Aspect

Varieties:

There are three varieties of carbonate of soda

These areas

1. Sajjikhar or Barilla
2. Sajjikhar - Naphul or washing soda (or) soda crystals
3. Bangada - Khara or very impure carbonate of soda

Sources:

The three varieties of carbonate soda are found in the ashes of chenopodiaceous plants. A species of salt growing near the sea. Crude carbonate or sulphate of soda is an alkaline earth found in large quantities where white granite forms the subsoil.

It is generally found in the hot weather as a efflorescent scandy deposit covering large tracts of open country.

Purification:

It is scraped of the surface to about 3 inches deep and then boiled with a little quick lime and made into cubes for in cart lands. Also obtained from kelp or barilla by ioncinerating sea-weeds. From Dhobies earth by adding quick lime to the earth and boiling repeated with water.

Constituents:

It contains 25 pc of sodium carbonate is obtained by lixiviation and crystallization of barilla. Chemically it consists of carbonate of soda with certain impurities such as organic matter, sulphate of soda, potash etc.,
**Characters:**

It occurs in porous granular masses of a greyish white colour or as heavy hard pieces with a strong alkaline taste of soda.

**Action:**

It is an antacid and a diuretic. The properties are generally like those of yavakshara, but inferior to it.

**Uses:**

- It is useful in dyspepsia with vomiting, diarrhoea and flautulence.
- It is an efficient remedy in urinary disease.
- In bright's disease of the kidney. and in diabetes the habitual use of this salt has marked beneficial effect.
- In rheumatism and gout Sajji Kadya is given internally with benefit. A powder known as Sajji Kadya Churna made up of Sarajikshara and Yavakshera and Pancha Lavana all equal parts powdered and soaked in lemon juice, Juice of pomegranate fruits and dried in the sun, cures dyspepsia with severe pain after meals, ascites and loss of appetite.

The Indian Materia Medica – 101 - 103
MATERIALS AND METHODS

In this dissertation the “Thisaimuga Parpam” was selected as a compound drug study and used in “Azhal Keel Vayu”.

Collection of Drug:

The drugs were collected from the Raw drugs stores at Tirunelveli.

1. Rock Salt Purification:

   Rock salt was soaked in kaadi for 3 days and dried under sun.

   By this method it was purified.

2. Appalakaaram Purification:

   A solution of this salt was made with water and the impurities are filtered. This solution was heated to a syrupy consistency and then dried.

3. Purification of Vediyuppu:

   4 parts of water and 1 part of vediyuppu are taken to form a solution. This solution was heated in a low flame till boiling point was reached. At this point add egg white, at the ratio of 4 eggs for 1400gm vediyuppu, dirt floats on the surface.

   It was removed with spoon, before the salt solidifies it was drained in another vessel with mouth covered with a piece of cloth. It
was kept in a closed space and the water in it was drained the next day. After draining it was kept under sun. This process was repeated 6 more times.

4. Kalluppu Purification

Kaadi was sprinkled and mixed with kallupu the moisture was removed by covering with cloth and dried under sun.

PREPARATION:-

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>35gm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induppu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vediyuppu</td>
<td></td>
<td>35gm</td>
</tr>
<tr>
<td>Kalluppu</td>
<td>35gm</td>
<td></td>
</tr>
<tr>
<td>Appalakaram</td>
<td></td>
<td>35gm</td>
</tr>
</tbody>
</table>

All these are rubbed with kozhiavarai juice for 6 hours and made into a ball. It was kept in an earthen pot and the mouth was closed by an earthen plate. The ends were covered with mud soaked cloth. Putam was made with 12 varieties. The prepared medicine was taken when it cools down.

**Route of administration**: oral.

**Dose**: 200mg twice a day with hot water after meals.
BIO – CHEMICAL ANALYSIS OF THISAIMUGA PARPAM

Preparation of the extract:

100mgs of parpam was weighed accurately placed into a clean beaker and added a few drops of concentrated hydrochloric acid and evaporated it well. After evaporation cooled the content and added a few drops of conc. Nitric acid and evaporated it well. After cooling the content add 20ml of distilled water and dissolved it well. Then it was transferred to 100ml volumetric flask and made up to 100ml with distilled water. Mix well filter it. Then it was taken for analysis

<table>
<thead>
<tr>
<th>S.NO</th>
<th>EXPERIMENT</th>
<th>OBSERVATION</th>
<th>INFEERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TEST FOR CALCIUM</td>
<td>A white precipitate was formed</td>
<td>Indicated the presence of calcium</td>
</tr>
<tr>
<td></td>
<td>2ml of the above prepared extract was taken in a clean test tube. To this add 2 ml of 4% Ammonium oxalate solution was added.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>TEST FOR SULPHATE:</td>
<td>A white precipitate was formed</td>
<td>Indicated the presence of sulphate</td>
</tr>
<tr>
<td></td>
<td>2ml of the extract was added to 5% barium chloride solution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>TEST FOR CHLORIDE</td>
<td>A white</td>
<td>Indicated the</td>
</tr>
</tbody>
</table>
The extract was treated with silver nitrate solution. precipitate was formed presence of chloride

<table>
<thead>
<tr>
<th>S.NO</th>
<th>EXPERIMENT</th>
<th>OBSERVATION</th>
<th>INFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>TEST FOR CARBONATE</td>
<td>No brisk effervescence was formed</td>
<td>Absence of carbonate</td>
</tr>
<tr>
<td></td>
<td>The substance was treated with concentrated HCL.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>TEST FOR ZINC</td>
<td>No white precipitate was formed</td>
<td>Absence of Zinc</td>
</tr>
<tr>
<td></td>
<td>The extract was added with pottassium Ferro cyanide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>TEST FOR IRON-FERRIC</td>
<td>Blue colour was formed</td>
<td>Indicated the presence of ferric iron</td>
</tr>
<tr>
<td></td>
<td>The extract was treated with Glacial acetic acid and potassium ferro cyanide.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>TEST OF IRON FERROUS:</td>
<td>Blood red colour was formed</td>
<td>Indicated the presence of ferrous iron</td>
</tr>
<tr>
<td></td>
<td>The extract was treated with concentrated Nitric acid and ammonium thio cyanate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>TEST FOR PHOSPHATE</td>
<td>Yellow precipitate was formed</td>
<td>Trace amount of phosphate was present</td>
</tr>
<tr>
<td></td>
<td>The extract was treated with ammonium Molybdate and concentrated nitric acid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>TEST FOR ALBUMIN</td>
<td>No Yellow precipitate was formed</td>
<td>Absence of Albumin</td>
</tr>
<tr>
<td></td>
<td>The extract was treated with Esbach’s reagent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>TEST FOR TANNIC ACID</td>
<td>No blue black precipitate was</td>
<td>Absence of Tannic acid</td>
</tr>
<tr>
<td></td>
<td>The extract was treated with ferric chloride.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.NO</td>
<td>EXPERIMENT</td>
<td>OBSERVATION</td>
<td>INFERENCEx</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------</td>
<td>------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>11.</td>
<td>TEST FOR UNSATURATION</td>
<td>It doesnot get decolourised</td>
<td>Absence of unsaturated compound</td>
</tr>
<tr>
<td></td>
<td>Potassium permanganate solution was added to the extract.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>TEST FOR REDUCING SUGAR</td>
<td>Colour change occurred</td>
<td>Indicated the presence of Reducing sugar</td>
</tr>
<tr>
<td></td>
<td>5ml of Benedict’s qualitative solution was taken in a test tube and allowed to boil for 2mts and added 8 – 10 drops of the extract and again boiled it for 2 mts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>TEST FOR AMINO ACID:</td>
<td>No Violet colour was formed</td>
<td>Absence of Amino acid</td>
</tr>
<tr>
<td></td>
<td>One or two drops of the extract was placed on a filter paper and dried it well. After drying, 1% ninhydin was sprayed over the same and dried it well.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PHARMACOLOGICAL STUDIES

Analgesic study of Thisaimuga parpam By Tail Flick method

Introduction:

According to Siddha Medicine the Thisaimuga parpam is indicated in Vatha diseases from this indication, the drug Thisaimuga parpam might posses analgesic activity.

Aim:

To study the analgesic effect of Thisaimuga parpam on albino rats by tail flick method.

MATERIALS AND METHODS:

Preparation of the Test Drug:

200mg of Thisaimuga parpam was suspended in 10ml of Hot water as suspending agent. This 1ml contained 20mg of the test drug.

Equipment : Hot water bath

Procedure:

Six male albino rats (weighing 80-100gms) were used in three groups. The animals were allowed free to access food and water until they were brought for the experiment. The animals which showed the positive response to the stimulus with in a given time were selected for the study.
After the selection of animals which were responding to stimulus within 2 seconds, they were divided into 3 groups, each group consisting of 2 rats.

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

First group was given the Thisaimuga parpam at a dose of 20mg / 100gm body weight of the animal.

Second group was administered with paracetamol at a dose of 20mg/100gm of body weight. Third group was given 1ml of water and kept as control.

After the drug administration, the reaction time of each rat after ½ an hour : 1 hour and 1 ½ 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.
### Study of Analgesic effect of using the drugs of Thisaimuga parpam

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Name of Drugs/Groups</th>
<th>Dose/100gm body weight</th>
<th>Initial reading</th>
<th>After Drug Administration</th>
<th>Mean Difference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>¼ Hr Average</td>
<td>1 Hr Average</td>
<td>1 ½ Hr Average</td>
</tr>
<tr>
<td>1</td>
<td>Thisaimuga parpam</td>
<td>20mg/1ml</td>
<td>2.5 sec</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>2</td>
<td>Paracetamol</td>
<td>20mg/1ml</td>
<td>3.0 sec</td>
<td>4.5</td>
<td>5.0</td>
<td>6.5</td>
</tr>
<tr>
<td>3</td>
<td>Water</td>
<td>1ml</td>
<td>2.5 sec</td>
<td>-</td>
<td>-</td>
<td>2.5 sec</td>
</tr>
</tbody>
</table>

**Inference:** The test drug has got moderate analgesic action.
ANTI – INFLAMMATORY STUDIES

ACUTE ANTI – INFLAMMATORY STUDIES

Carrageenin induced Hind paw oedema method

Introduction:

In Siddha texts, Thisaimuga parpam is indicated in the condition of Vatha disease. So the following Pharmacological studies have been done.

Method:

Carrageenin induced Hind Paw Oedema method in albino rats.

Aim:

To evaluate the acute anti-inflammatory effect of Thisaimuga parpam by Carrageenin induced Oedema method in albino rats.

Drug Preparation:

200mg of Thisaimuga parpam was suspended in 10ml of hot water. Hot water was added for dissolving the test drug. This 1ml contains 20mg of the test drug.

Procedure:

Six healthy albino rats of either sex weighing between 80 – 100gm were selected. The volume of each hindpaw was measured by using the mercury plethysmograph.
After the measurement of hind paw of all the rats, they were divided into three groups. Each group containing two rats.

First group was given test drug. Thisaimuga parpam dose of 20mg / 100gm body weight of the animal. The second group was given Ibu brufen 20mg/100gm of body weight and the third group was kept as control by giving distilled water of 1ml / 100gm of body weight.

All the animals were given 0.1ml of 1% (w/v) of carrageenin suspension which was injected subcutaneously in the plantar surface of hind paw of rats.

Three hours after carrageenin injection the hind paw volume was measured, from the differences in the initial and final hind paw volume, the degree of the inflammation was calculated by taking the volume in the untreated control groups as 100%.

The percentage of inflammation of the other group was calculated from the degree of the anti – inflammatory effect of the treated and the test groups were calculated.
Study of Acute Anti – Inflammatory by hind paw oedema method using Plethysmograph using the drug of Thisaimuga parpam

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100gram body weight</th>
<th>Initial Reading average</th>
<th>Final Reading average</th>
<th>Mean Difference</th>
<th>Percentage Inflammation</th>
<th>Percentage Inhibition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thisaimuga parpam</td>
<td>20mg/1ml</td>
<td>0.5</td>
<td>1.0</td>
<td>0.45</td>
<td>56.25</td>
<td>43.75</td>
<td>Moderate action</td>
</tr>
<tr>
<td>2.</td>
<td>Ibu Brufen</td>
<td>20mg/1ml</td>
<td>0.8</td>
<td>0.85</td>
<td>0.05</td>
<td>6.25</td>
<td>93.75</td>
<td>Good</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>0.6</td>
<td>1.5</td>
<td>0.80</td>
<td>100.00</td>
<td>-</td>
<td>No</td>
</tr>
</tbody>
</table>

Inference: The test drug has got moderate action.
CHRONIC ANTI – INFLAMMATORY EFFECT OF THISAIMUGA PARPAM IN ALBINO RATS BY COTTON PELLETS GRANULOMA METHOD.

Aim:

Chronic anti inflammatory effects of Thisaimuga parpam

Drug Preparation:

200mg of Thisaimuga parpam was suspended in 10ml of hot water. Hot water was added for dissolving the test drug.

Procedure:

Six healthy albino rats weighing 100 -150 gms were taken and divided into three groups, each groups consisting of two rats.

In this procedure the drug was given daily for 7 days. Before giving the drug cotton pellets each weighing 10mgm were prepared and sterilized in the auto clave for about one hour under 15 Hg atmospheric pressure.

On the day of the experiment, each rat was anaesthetised with ether to implant 10mgm of sterilized cotton pellets subcutaneously in the lower abdomen of each side after making suitable incision and sutured carefully.
The first group of animals were given the test drug, Thisaimuga parpam in a dose of 20mg/100gm of body weight. The second group was given Ibu-brufen at a dose of 20mg / 100gm body weight. Third group was kept as control group by giving distilled water of 1ml /100gm of body weight on the 8th day of the experiment, all the rats were sacrificed and cotton pellets surrounded by granulation tissues were removed and dried in hot air oven at 55°C - 60°C.

The concordant weight of granuloma for control group and treated group give an estimation of degree of inhibitory activity of test drugs.
Study of Chronic Anti-Inflammatory effect by Cotton Pellet method using the drugs of Thisaimuga parpam

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Drugs/Groups</th>
<th>Dose/100 gram body weight</th>
<th>Pellet weight</th>
<th>Pellet weight of the Granuloma of drugs</th>
<th>Mean difference</th>
<th>Percentage inflammation</th>
<th>Percentage inhibition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thisaimuga parpam</td>
<td>20mg/1ml</td>
<td>10mg</td>
<td>135mg</td>
<td>-</td>
<td>54</td>
<td>46</td>
<td>Moderate action</td>
</tr>
<tr>
<td>2.</td>
<td>Ibu Brufen</td>
<td>20mg/1ml</td>
<td>10mg</td>
<td>56mg</td>
<td>-</td>
<td>22.4</td>
<td>77.6</td>
<td>Good</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>10mg</td>
<td>250mg</td>
<td>-</td>
<td>100</td>
<td>-</td>
<td>No</td>
</tr>
</tbody>
</table>

Inference: The Test drug has got moderate action.
ANTI PYRETIC ACTIVITY ON ALBINO RATS

BY

BEWER YEAST METHOD

Aim:
To study the anti pyretic activity of Thisaimuga parpam.

Procedure:
Six albino rats were selected each weighing about 100 – 150gm and divided into 3 groups. 2 rats in each group. All the rats were made hyperthermic by Subcutaneous injection of 12% Suspension of yeast at a dose of 1ml / 100gm of body weight. 10hours later, the first group was given test drug orally at a dose of 20mg / 100gm body weight. Second group was given paracetamol 20mg / 100gm of body weight. The third group was given distill water orally at a dose of 1ml / 100gm of body weight.

The mean rectal temperature for the 3 groups were recorded at 0 hour, 1.30 hours and 4.30 hours after the administration of drugs.

The difference between the mean temperature of the control group, the standard group and that of drug group was calculated and tabulated.
**Study of Anti pyretic by yeast induced method using the drugs of Thisaimuga parpam**

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Drugs / Groups</th>
<th>Dose / 100 gram body weight</th>
<th>Initial Temperature in centigrade</th>
<th>After Drug Administration</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Thisaimuga parpam (3 Rats Average)</td>
<td>20mg/1ml</td>
<td>36.5°C</td>
<td>36.5</td>
<td>36.5</td>
</tr>
<tr>
<td>2.</td>
<td>Paracetamol</td>
<td>20mg / 1ml</td>
<td>36.5°C</td>
<td>35.5</td>
<td>35.0</td>
</tr>
<tr>
<td>3.</td>
<td>Water</td>
<td>1ml</td>
<td>36.5°C</td>
<td>36.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>

**Inference:** The test drug has got **Mild Action**
CLINICAL ASSESSMENT

Azhal keel vayu is a disease mainly affecting the major weight bearing joints. Normally this is change in the joints at certain age group.

It affects mainly the knee joints, which do a lot of functions like flexion, extension and rotation etc.

In order to assess the efficacy of the drug Thisaimuga parpam for Azhal Keel vayu, was tried clinically on 40 patients of both from the inpatient and out patient department of the Government Siddha Medical college hospital, Palayamkottai.

Patients above age 40 years were selected for clinical trial. Both sexes were selected from out patient and inpatient, out of 40 cases 10 cases were inpatients and 30 were out patients.

Patients with the symptoms of pain, swelling, stiffness, difficulty in walking etc were selected.

Routine investigations were done mainly with radiological findings.
Criteria for case selection:

- Pain
- Age above 40 years
- Swelling
- Measurement done
- Stiffness
- Limitation of movements
- Crepitation of the joints
- Routine investigations
- ‘X’ ray knee joint for both diagnosis and prognosis
- Signs and symptoms vary in its severity from patients to patient.

Excluding criteria:

Sudden onset of excruciating pain, marked swelling and redness of the big toe.

- Younger age group
- Migrating joint pain
- Evening raise of temperature, Loss of weight.
- Haemorrhagic effusion.
Line of Treatment:

Thisaimuga parpam was administered orally in a dose of 200mg twice a day with hot water after meals for each case for about 20 – 40 days.

Routine investigations were done before and after treatment. Radiological investigation also done before and after treatment. For IP patients, time was noted for walking to a distance of 100 feets, on admission and after treatment.

The duration of treatment varied according to the severity of signs and symptoms.

Medical Advice:

- They were advised to avoid foods like tubers, dhal, curd etc. which would increase the vatha kuttram.
- Advised to take vegetables and easily digestable foods.
- Avoid cold damp climate.
- Obese patients were advised to reduce their weight in order to avoid stress.
- Advise to take rest but prolonged immobilization should be avoided as it leads on the suffering of the point and further incapacitate the patient to walk.
Exercise for Strengthening Muscles around the knee joint:

Simple exercise that promote flexibility and strengthen the muscles around the knee can go long way towards warding off problems. In many cases, these exercise can also help hasten recovery after a knee injury. Weak or tight muscles are an important cause of knee injuries.

Hence, it is advisable to make the time and effort to strengthen the muscle around the knee. However, if one is already suffering from pain in the knee, these exercise should be performed after consulting a doctor. To derive maximum benefit from the following exercise, they should be performed once or twice a day, repeating every exercise five to ten times for each knee.

Thigh Firmer:
Sit on the edge of a chair with one leg stretched out in front and the heel resting on the floor, tighten the muscle that runs across in front of the knee by flexing the toes back. Simultaneously, push the back of the knee towards the floor and feel the stretch there as well as at the back of the ankle. Hold for 5 seconds. Repeat the same with the other leg.

**Knee flexion and extension:**

![Illustration of knee flexion and extension]

Sit straight on chair and bend the knee by pulling heel under the chair. Rest the foot on the toes. Hold for 5 seconds. Keep the foot relaxed and slowly raise it up to straighten the knee. Hold for 5 seconds and then slowly lower the foot to the floor. Repeat the same with the other leg.

**Straight Leg lift:**

![Illustration of straight leg lift]
Lie flat on the back with the stomach pulled in, the knee of one leg bent and the foot flat on the floor. Extend the other leg and lift it slowly as far as is comfortably possible, without bending the knee. Hold for 5 seconds and slowly lower the leg. Repeat the same with the other leg.

Response

Among the 40 patients 85% of patients showed good response of relief in signs and symptoms, 10% showed fair response and 5% showed no response.

<table>
<thead>
<tr>
<th>Result</th>
<th>No.of.Case</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete relief</td>
<td>34</td>
<td>85</td>
</tr>
<tr>
<td>Partial relief</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>No relief</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
DISCUSSION

The drug Thisaimuga parpam was taken for the Anti inflammatory and analgesic studies to establish its efficacy in treating Azal Keel Vayu.

The literary collections were collected from various literatures. From these informations, the author has come to an idea about Thisaimuga parpam and its efficacy in Azhal keel vayu.

Bio chemical analysis of this drug was conducted in our biochemistry lab. The drug contains Calcium, Sulphate, chloride, carbonate, Iron (Ferric form, Ferrous form) and trace amount of phosphate.

Pharmacologically this drug showed moderate analgesic, moderate acute anti inflammatory, moderate chronic anti inflammatory and mild anti pyretic actions.

For the purpose of clinical trials, 40 patients suffering from Azhal keel vayu were selected in them 10 were inpatients and 30 were out patients, for them 200mg of Thisaimuga parpam was administered twice daily with hot water. In them 34 (85%) patients obtained good results 4(10%) patients obtained fair results and 2 (5%) patients obtained poor results because of their non co-operation.
The improvement was proved by alleviation of symptoms before and after treatment. During the clinical trial the patients had no adverse effect. Thus Thisaimuga parpam is a very effective and safe drug.
SUMMARY

The drug Thisaimuga parpam was selected for the study to establish anti–inflammatory and analgesic and antipyretic in Azhal keel vayu.

1. To collect informations about the drug, various texts, literatures, journals were analysed, from these information the author has come to an idea about the identification of the drug and the anti inflammatory analgesic, antipyretic activity of the drug.

2. Bio chemical analysis of the drug showed that it contains calcium, sulphate, chloride, carbonate, Iron (ferric form, ferrous form) and trace amount of phosphate.

3. Pharmacological analysis of established that the drug has got moderate analgesic, moderate acute anti inflammatory, moderate chronic anti inflammatory and mild anti pyretic activities.

4. From clinical studies it was inferred that the drug showed good response to 85% of cases and moderate response to 10% of cases. No response to 5% of cases.

5. No adverse reactions were noted during the drug administration.
CONCLUSION

It is concluded that the drug Thisaimuga parpam is an effective remedy for Azhal keel vayu.
BIBLIOGRAPHY

• துணைபாரம் - சுற்றுநிகழ்ச்சி முறைப்படு - மத. குறுக்கிக் புராணங்கள் - சூர்யமால் பதிப்பு 1998
• துணைபாரம் காலை இருபாயப்படு - மத. அரச சிவபெருக்கங்கள் - சூர்யமால் பதிப்பு 1981
• காதல் காலம் எகிமாக்க - பின்ன. மாதி - 5 ம் பக்கம்
• உண்மைகளின் அமைதியானாகவும்
• கால்தொன்மை புராணங்கள் சோதனை - கால்தொன்மைப் பிரிவால் - B விளக்கத் தொகுப்பாக்கிடையில் அரச் காலன் அமைதியானம் புதுச்சொல்லும்
• சோதனை சது சராசரியாக - அதிகாரார்வப் பதிப்பு, திருவருகுமாரர் 2000 (இயற் காலன் சிற்பாக்கும்)
• அல்லாமத் சோதனை தாயகம் மக்கள் 3ம் பக்கம், 7ம் பக்கம் - 1905 8ம் பக்கம் - 1905 - பா. பெருமாள் அமினாட் கருப்பு
• பிளக்கீ 7000/8000/9000
• TVS காரொலைம் பிரிவால் 72 மில்லியன் அடையாளம்
• நூற்றாண்டுகாலம் சிற்று பதிப்பிற்கு - 2ம் பக்கம்
• பிறாரச சுருக்கிய சிற்று - புதுப்பியை -1994
• சிற்று சோதனை பதிக்காகும் கல்லற்ற விளக்கம்
• சிற்று பதிக்காரமாக வெளியாட்ட
• சாஸ்திரிய இருபத்தூர்
• பிளக்கீ 7000/8000/9000 - B விளக்கத் தொகுப்பாக்கிர, 1995
• இருபத்தூர் சிற்று பதிக்காகும் கல்லற்ற
• பார்வதி சோதனை மற்றும் - அரசாங்கப் பதிப்பு, 2000
• அல்லாமத் சோதனை காலைத் தாயகம் 1991. பா. குப்புச்சம் பிரிவால்,
• அல்லாமத் சிற்று சோதனை சோதனை 1951 Dr. C.N . Kuppuswami, Dr. V.S. Parvathi Vol III
• சாஸ்திரிய சிற்று
- Medicinal plants in India – Volume I.T. Pullaiah
- Indian Materia Medica – Dr. K.M. Nadkarni Vol I
- Angiosperms – G.L. Chopra
- Chemistry in Today’s world
- Text book of Inorganic Chemistry
- Text book of Pharmaceutical Chemistry
- Medicinal plants of Indian Vol II, Yoga Narasimhan
- Taxonomy of angiosperms – B.P. Panday
- Flora of India – Hooker 1972 – Vol I
- The Wealth of India – Vol I

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