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DRUG REVIEW ON MAHA ANALURVA CHOORNAM IN THE MANAGEMENT OF THANDAGAVATHAM (LUMBAR SPONDYLOSIS)

K. Mahalakshmi[1]*, H. Vetha Merlin Kumari[2], H. Nalini Sofia[3], T. Lakshmi Kantham[4], R. Meena Kumari[5]

[1]PG Scholar, Department of Maruthuvam, National of Institute of Siddha, Tambaram Sanatorium, Chennai, Tamilnadu, India.

[2,3]Associate Professor, Department of Maruthuvam, National of Institute of Siddha, Tambaram Sanatorium, Chennai, Tamilnadu, India.

[4]Associate Professor, Head of the Department (i/c), Department of Maruthuvam, National of Institute of Siddha, Tambaram Sanatorium, Chennai, Tamilnadu, India.

[5]Director, National of Institute of Siddha, Tambaram Sanatorium, Chennai, Tamilnadu, India.

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***Corresponding Author**
K. Mahalakshmi
PG Scholar, Department of Maruthuvam, National of Institute of Siddha, Tambaram Sanatorium, Chennai, Tamilnadu, India.

ABSTRACT

Siddha system of medicine is the traditional system of medicine existing in the southern India beyond the modern records. Vatha, Pitha, Kabha are the 3 vital humours which play important role in the functioning of human body. Derangements in these humour results in the disease. According to Siddhar Yugi there is, nearly 80 kinds of Vatha diseases. Thandagavatham (Lumbar Spondylosis) is one among them. About 266 million people in the world have Lumbar degenerative disorders. Among them, Lumbar spondylosis is one of the most common orthopedic complaint for which patients visit hospital frequently especially in Nigeria. In United states, about 80% of individuals above 40 years have lumbar spondylosis. Similar patterns are seen in India as well. This review is about a drug called “Maha Analurva Choornam” indicated for vatha diseases in Siddha Sastric literature called “AGATHIYAR VALLATHI 600”. Based on the Siddha literature and modern scientific literature, it is evident that Maha Analurva Choornam has Anti-inflammatory and Anti-oxidant activity.

KEYWORDS: Siddha, Thandagavatham, Lumbar spondylosis, Anti-inflammatory, Anti-oxidant.

INTRODUCTION

Siddha system of medicine is the traditional system of medicine existing in the southern India beyond the modern records. Vatha, Pitha, Kabha are the 3 vital humours which play important role in the functioning of human body. Derangements in these humour results in the disease. According to Siddhar Yugi there are, nearly 80 kinds of Vatha diseases.[1] Thandagavatham (Lumbar Spondylosis) is one among them. It is characterized by the bony overgrowth (osteophytes) in areas where the annular ligament of intervertebral discs is stressed. A meta-analysis found that Lumbar spondylosis affects 266 million individuals worldwide. The highest estimated incidence of lumbar spondylosis was in Europe and the lowest estimated incidence was in Africa.[2] In the United States, more than 80% of individuals older than 40 years have lumbar spondylosis.[3] Further, a report from a Nigerian study stated that it was the most common orthopedic disease which causes the significant physical and mental stress thereby forcing to make frequent visits to the clinics.[4] Similar patterns are seen in India as well. An Indian study, revealed that lumbar spondylosis was common among 79.5 % of their study population.[5] This review is about a drug called “Maha Analurva Choornam” indicated for vatha diseases in Siddha Sastric literature called “AGATHIYAR VALLATHI 600”.

Maha analurva choornam

This choornam is made from following drugs.

Ingredients of Maha analurva choornam

1. Kodiveli ver (*Plumbago zeylanica.L*)
2. Pungan ver (*Pongamia pinnata (L.) Pierre*)
3. Aailiyam ver (*Holoptelea integrifolia (Roxb.)Planch.*)
4. Aailiyam pattai (*Holoptelea integrifolia (Roxb.)Planch.*)
5. Vaivilangam (*Embelia ribes Burm.fil.*)
6. Kadukkai (*Terminalia chebula Retz.*)
7. Chukku (*Zingiber officinale Roscoe*)
8. Thippili (*Piper longum L.*)
9. Kadugu (*Brassica nigra (L.)W.D.J.Koch*)
10. Karum seeragam (*Nigella sativa L.*)

Method of purification

1. Kodiveli ver (*Plumbago zeylanica.L*)- Root was taken and made into a fine powder. Then it was treated with vapours of milk for 3 hours and dried.
2. Pungan ver (*Pongamia pinnata (L.) Pierre*)- Root was cleaned and dried.
3. Aailiyam ver (*Holoptelea integrifolia (Roxb.)Planch.*)- Root was washed and dried.
4. Aailiyam pattai (*Holoptelea integrifolia (Roxb.)Planch.*)- Bark was cleaned and dried.
5. Vaivilangam (*Embelia ribes Burm.fil.*)- Fruits were cleaned and dried in sunlight.
6. Kadukkai (*Terminalia chebula Retz.*)- Seeds were removed and dried.
7. Chukku (*Zingiber officinale Roscoe*)-Rhizomes were soaked in limestone water for 3 hours and outer layer was removed.
8. Thippili (*Piper longum L.*)- Fruits were soaked in Kodiveli leaf juice for 24 mins and then dried under sunlight.
9. Kadugu (*Brassica nigra (L.)W.D.J.Koch*)- Seeds were cleaned and dried in direct sunlight for 2 days.
10. Karum seeragam (*Nigella sativa L.*)- Seeds were cleaned, dried in sunlight and fried.

Method of preparation

i. 35 g each of Kodiveli ver, aailiyam ver and pattai and pungan ver were dried and then pulverised.
ii. Then other drugs each weighing 17.5 g were sautéed and pulverised.
iii. Later, both powders were mixed together to complete the preparation

1. Kodiveli

"Kattivira nangkiranthi kaalgal araiyappu
Katticchu laiveekam kaazhmoolam-muttirattham
Kattunee ryetrang kanatha peruvayiru
Attung kodiveli yam"

\- (Agasthiyar Gunavagadam.)

Botanical name: Plumbago zeylanica Linn.

Family: Plumbingaceae

Synonym: Ceylon leadwort, Wild leadwort, Doctor bush

Part used: Root

Taste: Pungent

Character: Hot

Division: Pungent

Scientific review

Chemical constituents

A phytochemical analysis done by Rajakrishnan et;al on P.zeylanica roots showed the presence of sugar, steroids, flavanoids, alkaloids, quinones, phenols, tannins and terpenoids. Further, they reported that Gas liquid chromatogram of the diethyl ether extract of the roots of P.zeylanica showed the presence of 8 chemical constituents. Among those, 1,4-naphthalenedione, was the predominant compound followed by oleic acid.[6] Plumbagin main chemical compound in the P. zeylanica is found in roots greater than in leaves and stem.[7]

Activity: Hepatoprotective, anti-inflammatory.[8] anti-diabetic, anti-cancer and anti-hyperlipidemic.

Uses: Used in rheumatism, laryngitis, scabies and spleen diseases.[9]

2. Pungan

"Vaathak kaduppu mahamoorchai thabasuram
Vathakunmam raththathaal vanthidunoi –oothukindra
Panpuraiyum valvidamum pogumthirandarunde
Panpurupun gamverkkup paar".

- (Agasthiyar Gunavagadam.)

Botanical name: Pongamia pinnata(L.)Pierre
English name: Indian beech
Family: Papilionacea
Part used: Root
Taste: Bitter, Astringent
Character: Hot
Division: Pungent

Scientific review

Chemical constituents: Flavonoids named Pongamones III-XI[10] were isolated from the root bark.

Activity: antioxidant, antimicrobial, antiparasitic, anti-inflammatory, anticonvulsant, anti-diabetic, anti-hyperammonemia, cytotoxicity, anthelminthic, and insecticidal[11] activities.

The fruits, bark, seeds, seed oil, leaves, roots and flowers of *Pongamia pinnata* are analgesic, so can be used for arthritis and inflammatory activity.

Uses: Roots are used for cleaning gums, teeth and treat ulcer, vaginal and skin illness.

3. Aiyiliam

"Aayi luriyai yeduneeru nithiyamei
Yayi luriyaiyeni laavimisai-yayil
Varisaiyak karkunigar valliyattunn meikku
Varisaiyak katthaiyuru vai"

\- (Theran Yamaga Vemba.)

Botanical name: Holoptelea integrefolia(Roxb.)Planch
English name: Indian elm, Jungle cork tree.
Family: Ulmaceae
Part used: Root, bark

Scientific review

Chemical constituents: Holoptelin-A, Holoptelin-B, friedlin, epifriedlin, β -amyrin, stigmasterol, β -sitosterol, 1, 4-napthalenedione, betulin, betulinic acid, hexacosanol, and octacosanol.

Activity: Stem bark has anti-oxidant, adaptogenic activity, wound healing, anti-cancer, anti-bacterial, anti-helminthitic.[12]

Uses: Bark powder is used for chronic wounds. Bark juice is applied to the swellings in the rheumatism. The bark is also used in the intestinal cancer.[13]

4. Vaivilangam

"Vaathakuru vayuvudambu vathamaruth thappadiyae
Vethaiyulo kangalilae vaendinar-paatha
Virathamudhar kaiyaada lendra lisaiyum
Varnannai neemanathil vai."

\- (Theran Vemba.)

Botanical name: Embelia ribes Burm. fil.
English name: False black pepper
Family: Myrsinaceae

Part used: Fruit

Taste: Bitter

Character: Hot

Division: Pungent

Scientific review

Chemical constituents: Embelin belonging to benzoquinone family is good for chronic diseases which works by upregulating antioxidant enzymes, inhibiting anti-apoptotic genes, modulating transcription factors, blocking inflammatory biomarkers, monitoring cell cycle synchronising genes.[14]

Activity: Embelin has antihelmentic, antiestrogenic, anti-inflammatory, antioxidant, antitumor and antifertility activity.[15]

Uses: Fruits are used to treat tumors, ascites, bronchitis, jaundice and mental disorders.

5. Kadukkai

"Thaadai kazhuththakki thaalu kuriyividap
Peedai silipadhamur bedhimudam-Aadaiyettath
Thoolamidi punvaatha sonika maalaiyiran
Daalamidi pomvarikka yaal."

\- (Agasthiyar Gunavagadam.)

Botanical name: Terminalia chebula Retz.

English name: Black myrobalan, Chebulic myrobalan

Family: Combretaceae

Part used: Fruit

Taste: Mainly Astringent, small amount of Sweet, Sour, Pungent, Bitter

Character: Hot

Division: Sweet

Scientific review

Chemical constituents: Fruits contains hydrolysable tannins-Pyrogallol type. It also contains 14 more hydrolysable tannins like gallic acid, chebulagic acid, punicalagin, chebulanin, corilagin[16] etc.

Activity: antioxidant, antimicrobial, antidiabetic, hepatoprotective, anti-inflammatory, antiproliferative, antiarthritic, enhances gastrointestinal motility.[17]

Uses: Powder from these fruits is used in gum problems like bleeding gums, loose gums, ulcerated gums etc. Besides it is also used to treat chronic diarrhoea, Chronic cough, Asthma, nervous weakness, nervous irritability.

6. Chukku

"Vaatha pinivayi ruthal sevivaai
Valithalai valisoolai valiiru vizhineer
Seethth thoduvari baedhi palaro
Sigamali mugamaga mugamidi kabamaar...."

- (Theran Gunavagadam.)

Botanical name: Zingiber officinale Roscoe
English name: Dried ginger
Family: Zingiberaceae
Part used: Dried rhizome
Taste: Pungent
Character: Hot
Division: Pungent

Scientific review
Chemical constituents: gingerols, shogaols, and paradols.

Activity: Anti-oxidant, Anti-inflammatory, Anti-cancer, Anti-obesity, Anti-emetic. The antioxidant activity is due to their Polyphenic compounds.

Uses: The rhizome is used for flatulence, indigestion, intestinal colic, inflammation, rheumatism.[18]

7. Thippili

"Katti yedhirnindru kadunoiyel lampaniyum
Thitti vinaiyagalum thegamettha –puttiyam
Maamanukku maamanena mattravarkku mattravanang
Kamanenum thippilikkum kai"

- (Theran Vemba)

Botanical name: Piper longum Linn.

English name: Indian long pepper, long pepper

Family: Piperaceae

Part used: Fruit

Taste: Pungent

Character: Hot

Division: Sweet

Scientific review

Chemical constituents: Piperine, Piperidine, Methylpiperate, Pipernonaline

Activity: Anticancer, Antioxidant, Anti-inflammatory, Anti-obesity, Analgesic.

Uses: Dried fruits are used in the treatment of Chronic Bronchitis, Asthma, respiratory infections, Diarrhea, paralysis of tongue, Viral hepatitis.[19]

8. Kadugu

"Idikaasa naasichchu reelaikabam pittham
Kadivaatha seethang kaduppo dudalir
Padukottu noiyennum pangivaika laippun
Kadokottu maenmarunthu kaan"

\- (Agasthiyar Gunavagadam.)

Botanical name: Brassica nigra(L.)W.D.J.Koch

English name: Black Mustard, Mustard

Family: Brassicaceae

Part used: Seeds

Taste: Pungent

Character: Hot

Division: Pungent

Scientific review

Chemical constituents: Seeds contains isothiocyanate especially sinigrin and myrosin. Among the isothiocyanates, allyl isothiocyanate is most common. Besides it contains proteins, fixed oil, inosite, lecithin, albumins, and mucilage.

Activity: Antioxidant[20] Anti-epileptic, Anti-cancer, Tonic, Laxative.

Uses: Seeds are used in the treatment of Neuralgia, spasms, epilepsy, alopecia, toothache, edema, Rheumatism.

9. Karunjeeragam

"Karunche ragaththan karapanodu punnum
Varumchiraip pinasamu mattrum-arunthinaal
Kaaichal thalaivaliyum kanvaliyum pomulagil
Vaichha marunthenve vai"
- (Agasthiyar Gunavagadam.)

Botanical name: Nigella sativa Linn.
English name: Black cumin
Family: Ranunculaceae
Part used: Seed
Taste: Bitter
Character: Hot
Division: Pungent

Scientific review

Chemical constituents: Thymoquinone-most abundant compound in the volatile oil of the seed. In addition, it contains Alkaloids-Nigellicines, Nigelledine, and flavonoids.

Activity: anti-inflammatory[21] anti-hyper lipidemic, anti-microbial, anti-cancer, anti-oxidant, anti-diabetic, anti-hypertensive, and wound healing activities.

Uses: Seed and its oil is used to treat inflammatory diseases, Rheumatoid arthritis, Asthma, Diabetes etc.

CONCLUSION

Maha analurva choornam stated in "Agathiyar Vallathi 600", has ingredients with bitter, pungent and astringent taste which are known to balance vatha humour. Hence, this drug has a potential in treating vatha disease. Likewise, review of individual drugs showed that they have anti-inflammatory, ant-oxidant activity which may play a role in the management of degenerative disease. Hence, further exploration of this drug should be done clinically to validate the potential of this medicine in treating Thandagavatham.

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