

A DRUG REVIEW ON EFFICACY OF “PANCHATHIKTA KIRUTHAM” A CLASSICAL SIDDHA DRUG IN THE MANAGEMENT OF UTHIRAVATHA SURONITHAM (RHEUMATOID ARTHRITIS)

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ABSTRACT

The Siddha system of medicine classified the disease in 4448 types based on mukkuttram. When the three humours are affected by life style modification and seasonal variation they produce the diseases. The vatha diseases classified into 80 types. It's one among them is Uthiravatha suronitham (Rheumatoid arthritis). Rheumatoid arthritis is a chronic inflammatory, destructive and deforming symmetrical poly arthritis associated with systemic involvement. The exact cause is unknown but malfunction of the cellular and humoral arms of the immune system. The most typical presentation is pain, joint swelling and morning stiffness affecting the small joints of the hands, feet and wrist in symmetrical fashion. Siddha literatures mentioned much

formulation indication of Vatha diseases. Panchathikta kirutham is a Herbo mineral Siddha formulation indicated for Uthiravatha suronitham. Hence this article gives efficacy of the drug Panchathikta kirutham on Rheumatoid arthritis based on various literatures and scientific studies.

KEYWORDS: Rheumatoid arthritis, Vatha disease, Siddha formulation, Uthiravatha suronitham.

INTRODUCTION

Siddhars classified the diseases into 4448 types based on Mukkutra theory [vatham, pitham, kappam]. Importance of three humours in human body is well explained in Thirukkural i.e the increase or decrease of three humours causes diseases.

Vatha diseases are classified by Yugi and Agasthiyar in their literatures, Yugi vaithiya chinthamani 800 and Agasthiyar vaidya chinthamani respectively. Sage Yugi classified diseases based on signs and symptoms. In his text book of Yugi vaithiya chinthamani, he classified the vatha diseases into 80 types. It's one among them is Uthiravatha suronitham. Its signs and symptoms may be correlated with the Rheumatoid arthritis in modern system of medicine.

Uthiravatha suronitham is mainly due to aggravated Vatha humour which is evident from the quote mentioned below.

“Vathamalaathu Menikedathu”- Theraiyar

The global Rheumatoid arthritis prevalence was 0.46% and point prevalence was 0.45% between 1986 and 2014, while the pooled period prevalence was 1955 to 2015. The global prevalence of RA between 1980 and 2019 was 460 per 100000 populations, with variations due to geographical locations.

In the text of Chikicharathana deepam (vaithiya nool) the formulation Panchathikta kirutham (internal medicine) is mentioned. This is indicated for Narambu, Asthi majjai thathuvil samanthapatta vayu, Vatharaktham. Most of the ingredients in the preparations are known to cure Vatha disease. Most of the ingredients posses veppa veeriyam (hot potency) and Kaippu suvai (pungent taste), which will balance and rectify the deranged Vatha kutram.

The ingredients are having Anti- inflammatory, Anti- spasmodic, Anti oxidant, Anti arthritic activity, Anti-analgesic activity.

MATERIALS AND METHODS

Ingredients and purification of Panchathikta kirutham:

Name of plant/mineral	Used part	Weight	Purification
vembu pattai (<i>azadirachta indica.a.juss</i>)	Bark	10 palam (350grams)	Clean by white cloth and peel the outer skin.
Seenthil kodi (<i>tinospora cordifolia miers ex hook.f. & thoms</i>)	Whole plant	10 palam (350grams)	Peel the outer skin.
Adathodai (<i>justicia adathoda.l</i>)	Whole plant	10 palam (350grams)	Without washing in water, clean it by white cloth then remove the rotten and ripen leaves.
Peipudal (<i>trichosanthes cucumerina.lin</i>)	Whole plant	10 palam (350grams)	Without washing in water, clean it by white cloth then remove the rotten and ripen leaves.
Kandangaththiri (<i>solanum surattense, burm.f.</i>)	Whole plant	½ varagan (2.1grams)	Without washing in water, clean it with white cloth then remove the rotten and ripen leaves.
Chittaratai (<i>alpinia officinarum.hance</i>)	Root	½ varagan (2.1grams)	Peel the outer skin, make it into small pieces and dry it under the sunlight.
Vaivilangam (<i>embelia ribes.burm.f</i>)	Seed	½ varagan (2.1grams)	Dry it under the sunlight and fry it.
Devadaru (<i>cedrus deodara g.don</i>)	Bark	½ varagan (2.1grams)	Clean by white cloth and peel the outer skin.
Anaittippili (<i>scindapsus officinalis, schott</i>)	Fruit	½ varagan (2.1grams)	Soak in vinegar for three hours and then dry it out.
Evaacharam (<i>potassium carbonate</i>)	Salt	½ varagan (2.1grams)	Dissolve it with goat's urine and then dry it out in sunlight.
Chukku (<i>zingiber officinale, rosc</i>)	Rhizome	½ varagan (2.1grams)	Soak in lime stone water for three hours and remove the outer layer.
Maramanjai (<i>coscinium fenestratum.colebr</i>)	Rhizome	½ varagan (2.1grams)	Soak in vinegar for three hours and then dry it out.
Adhimaduram (<i>glycyrrhiza glabra, linn</i>)	Root	½ varagan (2.1grams)	Wash with clean water, peel the skin and made into small pieces.
Cheviyam (<i>piper nigrum.linn</i>)	Root	½ varagan (2.1grams)	Soak in vinegar for three hours and then dry it out.
Kottam (<i>costus speciosus j.e.smith</i>)	Root	½ varagan (2.1grams)	Clean and dry it under the sunlight.
Milagu (<i>piper nigrum. linn</i>)	Seed	½ varagan (2.1grams)	Soak in buttermilk for one hour fifteen minutes and then roast it.
Vetpalaiyarisi (<i>wrightia tinctoria.r.br</i>)	Seed	½ varagan (2.1grams)	Dry it under the sunlight.

Omam (<i>carum copticum.f</i>)	Seed	½ varagan (2.1grams)	Dip in lime stone water after then dry it.
Kodiveliverpattai (<i>plumbago indica. linn</i>)	Root bark	½ varagan (2.1grams)	Remove the inner nerve root of the bark and powder the bark. The above said powder can be subjected to steaming process in cow's milk for three hours.
Kadugurohini (<i>picrorhiza scrophulariiflora pennell</i>)	Root	½ varagan (2.1grams)	Soak in neem leaf juice in 3 hours and dry it under sunlight.
Thamarai kilangu (<i>nelumbo nucifera.gaertn</i>)	Tuber	½ varagan (2.1grams)	Peal the outer skin, nerve roots and then clean it.
Vasambu (<i>acorus calamus. linn</i>)	Root	½ varagan (2.1grams)	Take the shot charcoal.
Thippili ver (<i>piper longum. linn</i>)	Root	½ varagan (2.1grams)	Clean and dry it.
Manjitti (<i>rubia cordifolia.linn</i>)	Root	½ varagan (2.1grams)	Dry it under the sunlight.
Atividayam (<i>aconitum heterophyllum wall ex royle</i>)	Root	½ varagan (2.1grams)	Soak in vinegar for three hours and then dry it out.
Shivadai (<i>operculina turperthum. linn</i>)	Root	½ varagan (2.1grams)	Remove the veins of the root, boil it in milk and then dry it in sunlight.
Kurosani omam (<i>hyoscymus niger. Linn</i>)	Seed	½ varagan (2.1grams)	Clean and dry it.
Kungiliyam (<i>shorea robusta, gaertn.f</i>)	Pisin	5 palam (175grams)	Soak in liquor for one day.

- Cow ghee- 1/2 paadi (750ml)

Preparation of panchathikta kirutham

Step: 1 Crush the first 5 drugs and kept in mudpot.

Step: 2 Add water eight times in the weight of the drugs and boiled until it becomes to the ratio 1/8 then add 1/2 padi ghee (750ml) to the above.

Step: 3 Then grind the other drugs finely with milk and mixed with above mixture and boiled until it becomes ghee consistency.

Dosage : Kaal palam (8.5gm)

Duration: 45 days

Pharmacological Action and Phytochemical constituents of ingredients of Panchathikta kirutham

Name of plant/mineral	Action	Pharmacological activity	Phytochemical constituents
vembu pattai	Anti periodic, tonic, astringent	Anti-inflammatory antipyretic Antiseptic Anti analgesic Anti arthritic activity Immunomodulatory	Tannins, saponins, phlobatanins, Flavanoids, cardiac glycosides, Anthraquinones, phytosterols, Polyphenols, saponin
Seenthil kodi	Alterative, anti periodic, demulcent, stimulant Stomachic, tonic, mild diuretic	Anti inflammatory Anti arthritic Anti diabetic Anti oxidant Anti allergic Anti spasmodic Immunomodulatory	Alkaloids, amino-acid, phenolic compounds, flavonoids, saponines steroids, cardiac glycosides, polysaccharides
Adathodai	Antispasmodic, expectorant, diuretic	Anti inflammatory Anti oxidant Antibacterial Anti microbial	Alkaloids, flavonoids, tannins, phenol, anthraquinones Saponins, phytosterols, triterpenoids, vasicine, vasicinone, Vasicineacetate, vasicinolone, benzoic acids, polyphenols Tocopherols, beta-carotene, ascorbic Acid, tocotrienols, folic acid, cinnamic acids
Peipudal	Anthelmintic, anti periodic, purgative, tonic	Anti diabetic Anti bacterial Anti-inflammatory Anti febrile Antioxidant activity	Cucurbitacin b, cucurbitacin e, isocucurbitacin b, 23,24dihydroisocucurbitacinb, 23,24dihydro cucurbitacin e, Sterols 2 β -sitosterol stigmasterol, oxalate, phytates and tannins
Kandangaththiri	Expectorant, diuretic, carminative	Antibacterial Antioxidant Hypoglycemic Anti diabetic Analgesic Hepato protective Anti inflammatory	Alkaloids, sterols, saponins, flavonoids, Tannins, cyclocartanol, cycloartinol, sitosterol, Stigmasterol,

			Campesterol, sitosteryl, glucoside, solamargine, Bsolamargine
Chittaratai	Expectorant, febrifuge, stomachic	Antioxidant activity Anti bacterial activity Anti-inflammatory Anti cancer activity Antiproliferative activity	Tectochrysin, apigenin, galangin, kaempferol Kaempferide, quercetin, sorhamnetin, rutin
Vaivilangam	Anthelmintic, carminative, stomachic, stimulant	Anti bacterial activity Antioxidant activity Analgesic activity Anti anxiety activity Anti diabetic activity Anti inflammatory	Embelin, quercitol, tannin, christembine, embelic acid, Vilangin
Devadaru	Astringent, febrifuge, carminative	Anti inflammatory Anti analgesic Anti cancer activity Anti-hyperglycemic Antispasmodic Anti-apoptotic Immunomodulatory	Matairesinol, dibenzyl butyrolactol, berating, isopimpillin, lignans 1, 4 diaryl butane, benzo furanoid. Neolingam, isohemacholone, sesquiterpenesliiii: deodarone, atlantone, deodarin, deoardione, Limonene carboxylic acid, α -himacholone, β -himacholone, α -pinene, β -pinene, myrcene.
Anaitippili	Stomachic, stimulant, anthelmintic, sudorific (diaphoretic)	Anti inflammatory Analgesic Anti cancer Anthelmintic Hepato protective Anti oxidant	Steroid, carbohydrate, flavonoids, alkaloids. Tannin, saponin, terpenoids
Chukku	Stimulant, stomachic, carminative	Anti inflammatory Anti oxidant Anti cancer	Quercetin, zingerone, gingerenone-a, 6-dehydro gingerdione, B-bisabolene, α -curcumene, zingiberene A-farnesene, β -sesquiphellandrene
Maramanjai	Febrifuge, stomachic, tonic	Antimicrobial Anti-inflammatory Antioxidant activity	alkaloids, terpenoids, triterpenoids, glycosides, cardiac glycosides

			Phenols, tannins, flavonoids, saponins
Adhimaduram	Emollient, demulcent, mild expectorant, laxative, tonic	Anti viral activity Anti-inflammatory Anti diabetic activity Antihyperlipidemic activity Hypocholesterolaemic Anti-obesity activity Hepatoprotective activity Neuroprotective	Glycyrrhizin, 18 β -glycyrrhizic acid, alkaloids, Glycosides, Carbohydrates, starches, phenol Compounds, flavonoids, Proteins, pectin, mucilage, saponins, lipids, tannins, sterols
Cheviyam	Carminative, anti periodic, stimulant, resolvent, anti vatha, anti dote	Anti platelet Anti hypertensive Anti cancer Antioxidant Analgesic Antidepressants	Piperine, essential oils, b-caryophyllene, limonene, sabinene, a-pinene, b bisabolene, A- copaene
Kottam	Stomachic, expectorant, tonic, stimulant, diaphoretic	Antioxidant Anti inflammatory Anti cancer Anti cholinesterase Hepatoprotective Diuretic Anti spasmodic Anti fungal Anti bacterial	Triterpenes, aliphatic, hydroxyl ketones, fatty acid, oxa-acid Abscisic acid, starch, mucilage, corticosteroids, tigogenin
Milagu	Carminative, anti periodic, stimulant, re solvent, anti vatha, anti dote.	Anti platelet Anti hypertensive Anti cancer Antioxidant Analgesic Antidepressant	Piperine, essential oils, b-caryophyllene, limonene, Sabinene, a-pinene, b-bisabolene, a- copaene
Vetpalaiyarisi	Tonic	Anti-oxidant activity Anti-bacterial activity Anti-fungal activity Anti- diabetic activity Anti analgesic activity	Cycloartenone, β amyrin, cycloeucalenol, B-sitosterol Sterol 14 α -methyl zymosterol, desmosterol, cholesterol, 24-methylene-25-methyl cholesterol, 24-dehydropollinastanol
Omam	Stomachic, antispasmodic, carminative, anti septic, stimulant,	Anti hypertensive Antispasmodic Antiplatelet-aggregatory activity	Fiber, carbohydrate tannins, glycosides, moisture protein, fat, saponins, flavones,

	tonic.	Anti oxidant Hyperlipidemic Analgesic Anti-inflammatory activity Immunomodulatory activity	minerals like calcium, phosphorus, iron, nicotinic acid, P-cymene, β -pinene limonene, γ -pinenes, β -pinene
Kodiveliverpattai	Tonic, stomachic	Anti plasmodial activity anti oxidant activity Antiinflammatory activity Hyperlipidaemic activity Anti arthritic activity Hepatoprotective activity	Plumbagin, 3-chloroplumbagin, 3,3-biplumbagin, biplumbagin, plumbagicacid plumbagicacid glucosidases3,8- dihydroxy-6-methoxy - 2-iso propyl-1-4- naphthaquinone, 5,7- dihydroxy -8- methoxy-2-methyl- 1,4-naphthoquinone Zeylinone, isozeylanone, elliptinone, droserone, isoshinanolone, maritinone, seselin, 5- methoxyseselin, suberosin, xanthyletin,
Kadugurohini	Anti periodic, stomachic, cathartic, anthelmintic.	Antioxidant activity Antiinflammatory activity Immunomodulatory activity Hepatoprotective activity Anti cholestatic activity	Glycoside (kutkin), picroside-i and ii,2,2'- diphenyl-l- picrylhydrazyl (dpph), 2,2'-azino-bis-(3- ethylbenzothiazoline- 6-sulfonicacid) (abts)
Thamarai kilangu	Demulcent	Anti-inflammatory Anti diabetic Anti oxidant Immuno modulator	Fresh rhizome contains 83.80% water, 0.11% fat, 1.56% reducing sugar, 0.41% sucrose, 2.70% crude protein, 9.25% starch, 0.80% fiber, 1.10% ash and calcium. The vitamins thiamine (0.22 mg/100 g), riboflavin, niacin, ascorbic acid and an asparagines-like amino acid, alkaloids,

			lipids, xanthophylls, nuciferine, phospholipids, carotenes, flavonoids, aporphines.
Vasambu	Stimulant, stomachic, anti periodic Carminative, emeti, disinfectant, germicide	Anti-oxidant Anti-inflammatory Anti-cancer Anti-ulcer Anti-fungal Anti-allergic Anti-microbial Neuroprotective Pesticidal Cardio protective effects	Alpha (α)-asarone (1,2,4-trimethoxy-5-[(e)-prop-1-enyl] benzene) , beta (β)-asarone (1, 2, 4-trimethoxy-5-[(z)-prop-1-enyl] benzene), Glycosides, (xanthone), volatile oil, sesquiterpenes, monoterpenes, flavonoids, steroids, saponins, lignin, tannins, mucilage, alkaloid
Thippili ver	Stomachic	Anti-arthritic Anti-inflammatory Analgesic Anti-oxidant Anti-microbial Anti-stress Anti-hyperglycemic Hepatoprotective Immunomodulatory	Piperin, piperlongumine, essentialoil, flavonoids, steroids.
Atividayam	Stomachic, astringent, febrifuge Aphrodisiac, tonic, anti periodic	Anti-oxidative Anti-inflammatory Anti-flatulent Anti-periodic Anti-phlegmatic Carminative	Alkaloids, carbohydrates, protein, amino acid, cardiac glycosides, phenols, flavonoids, saponins, terpenoids and quinines, aconitine, anthorine 12-secohetisan-2-ol, n-succinoylanthranilate, atesinol6-benzoylheterastine, n-diethyl-n-formyllaconitine, methyl aconitine, aconitine, anthorine.
Shivadai	Purgative	Nephro protective Hepatoprotective Anti inflammatory	Neriodorin, neriodorein, karabin, b-sitosterol

		Analgesic Anti-arthritic activity Anti diabetic	A - and β -turpentine, coumarin, scopoletin, lupeol, betulin.
Kurosani omam	Hypnotic, sedative, anodyne, antispasmodic, mild diuretic.	Anticonvulsant activity Anti diarrheal activity Broncho dilatory activity Anti spasmodic activity	1 -hyoscyamine (alkaloid), atropine, scopolamine, hyoscine, atropine, flavonoids (rutin), spiraeoside and 31 etc), furanoflavonoid, glucoside, pongamoside c, flavonol glucoside, pongamoside d.
Kungiliyam	Stimulant, expectorant, diuretic.	Analgesic Anti-hyperlipidemic, Anti-inflammatory Antimicrobial Antioxidant Antipyretic Antiulcer Immunomodulatory Anti arthritic activity.	Bergenin, ursolic acid, caryophyllene oxide, calarene epoxide Lupeol, β -humulene, α -amyrin, α -amyrin, β -caryophyllene.

Cow's ghee

Pharmacological activity

- Anti oxidant
- Anti atherogenic activities
- Anti cancer

Medicinal uses

1. Ghee is also important carrier of fat-soluble vitamins (A, D, E, K) and essential fatty-acids (linolenic acid and arachidonic acid).
2. Ghee will be easily absorbed and transported to targeted areas of the body.
3. It is mainly composed of glycerines (usually mixed), and other minor constituents free fatty acids, phospholipids, sterols, sterol esters, fat-soluble vitamins, carbonyls, hydrocarbons, carotenoids.

CONCLUSION

Based on various Siddha text reviews, the ingredients of Panchathikta kirutham are commonly used in treating the Vatha disease. The pharmacological activities of ingredients are most found as Analgesic, Anti-inflammatory, Antioxidant, Anti arthritic activity.

Therefore the formulation could be very effective in the management of Uthiravatha suronitham (Rheumatoid arthritis). The drug is easily available to prepare, cost efficacy and safer treatment in Rheumatoid arthritis. Further clinical studies and statistical data analysis help in exploring this herbal Siddha formulation.

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