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INTRODUCTION

Medicine has become as indispensable part of human being since ancient period of all systems of medicine, siddha system is unique since it is the one which deals with both Internal ie, Man and External body ie, Nature.

Nature has provided many plants which are indispensable to man for his life. Also, in our siddha system of medicine, as many plants contain small amounts of minerals in them, they are first used as medicine & then used metals as medicine.

It is known from the following lines,

”வேர் பாரு தழைபாரு மிஞ்சினக் கால்
மெல்ல மெல்லப் பற்பச்செந் தூரம்பாரே”

In this aspect, the author has selected a plant drug, Jatamansi, for the treatment of Eraippu Erumal as per our texts ie. Gunapadam – Mooligai (P.No - 416) (Mooligai No 266).

Jatamansi is used in siddha medicine for a long time. Spikenard or Indian nard is the common name of the plant. It's botanical name is Nardostachys jatamansi. It belongs to family valerianaceae. It is a native of himalayan region and is found to far south as the Deccan plateau India.

Jatamansi has two varieties

1. Himalayan i.e. Indian variety - N. Jatamansi
2. North American variety - F. Valeianaceae

Aralia racemosa

Family : Araliaceae

Jatamansi is used in India as drug and also in perfumery.

In this dissertation study, **Sadamanjil ver Chooramam** is taken for the study for the treatment of Eraippu Erumal.

AIM AND OBJECTIVE

The aim of this dissertation is to establish that the drug Sadamanjil Verchoornam is an effective remedy for the disease Eraippu Erumal.

Eraippu Erumal (Bronchial Asthma) is as common in India as in any other country . It is probably one of the commonest of the major affections in our country. This forms the single biggest clinical group among the chest diseases that is treated in our college hospital. Millions of people suffer from it .

Bronchial Asthma is just an allergic manifestation in an oversimplification of this difficult problem. In every case of Asthma there are a few known factors and many unknown factors, and so an aetiological classification of Asthma in any given case is difficult and other faculty.

The treatment of the disease is to be successful has necessarily got to be individualized as no two cases of Asthma are alike either in their response to treatment or in maintaining the improvement. So the entire course of the disease is unpredictable and each case has got to be tackled by utilising all the resources both modern and Ancient.

Keeping this in mind the author selected "**Sadamanjil Ver Choornam**" which is not much used by the physicians.

The drug is easily available so the main aim of the study is to do a pharmacological and clinical study of **Sadamanjil Ver Choornam** on **Eraippu Erumal**.

The study is done in the following Aspects,

1. Botanical aspects.
2. Pharmacognostical aspects.
3. Phytochemistry.
4. Pharmacological Aspects (Review of update work on
Jatamansi all over the world)
5. Gunapadam Aspects.
6. Bio chemical Analysis.
7. Pharmacological Analysis.
8. Clinical Assessment.

BOTANICAL ASPECT

Nardostachys jatamansi de candolle

According to the Bentham and Hooker (1876) classification, N.

Jatamansi DC is classified as follows.

Kingdom	-	Plant kingdom
Division	-	Angiosperms
Class	-	Dicotyledons
Sub –class	-	Gamopetalae
Series	-	Inferae
Order	-	Rubiales
Family	-	Valerianaceae
Genus	-	Nardostachys
Species	-	Jatamansi, decandolle.

Vernacular Names

Common names	:	Indian nard, balchar, spikenard
English names	:	Muskroot, Indian Spikenard
Sanskrit	:	Jatamansi, Mamsi
Hindi	:	Jatamansi, bal-chir, jatalasi
Kannada	:	Jatavasi, Jatamamsi
Malayalam	:	Jatamanci, Jatamamsi, manci
Telugu	:	Jatamamsi, Jatamsi

Bengali	:	Jatamansi
Marathi	:	Jatamavshi
Gujarathy	:	Jatamansi, Kalichhad
Kashmiri	:	Bhutijatt, Kukilipot
Garhwal	:	Masi
Nepal	:	Haswa, Naswa, Jatamangsi
Bhutan	:	Pampe, Jatamansi
Tamil	:	Jatamashi, (ஐடாமாஷி) Sadamanjil (சடாமாஞ்சில்)

Geographic origin of the plant

Central Nepal.

Method of Growing

Wild.

Distribution and Habitat:

It is commonly distributed in an elevation range of 3500m to 4500m in the northern aspect of the sub-alpine and alpine pastureland of the Himalayas in Nepal. The plant is mostly found growing in steep areas with a 25° - 45° slope. It grows well on open, stony and grassy slopes and on the turf of glacial flats. Also found as far south as the Deccan plateau.

Varieties

1. Himalayan variety - *N.jatamansi*

Family : Valerianaceae.

The Indian variety is a Himalayan plant whose underground stem produce a perfume used in Eastern aromatic oils.

2. North American Variey - *Aralia racemosa*

Family : Araliaceae.

It has fragrant roots.

Habit and features

An erect perennial herb, 10 - 60cm in height, dwarf, and hairy, rhizomatous herb forming a group of thick roots covered with reddish brown fibres. Leaves opposite, spatulate. Stipules absent. Flowers capitate. Calyx epigynous. Corolla gamopetalous and tubular, stamens on the corolla tube. Anthers 2 – celled opening lengthwise. Ovary inferior, 3 celled style simple and slender Endoperm absent.

External Morphology

Root stock

Woody, long stout, covered with fibres from petioles of withered leaves.

Stem

10 – 60cm more or less pubescent upwards, often glabrate below, subscapose .

Leaves

Entire radical leaves elongate, spatulate cauline few, Sessile, few oblong or subovate. 15 – 20cm, longitudinally nerved, Glabrous or slightly pubescent narrowed into the petiole.

Flowers

Rosy, pale pink or blue. 1-30 in no. fine capitate, heads in cymes, bracts, 6mm oblong free or nearly so pubescent.

Calyx

5 lobed in fruit enlarged membranous veined.

Corolla

Tubular campanulate, base sub equal , 5 lobes, spreading rosy, somewhat hairy.

Androecium

4 stamens, stamen on the corolla tube alternate with the corolla lobes.

Gynoecium :

Inferior ovary 3 celled, 1 ovuled, style linear, Slender, Stigma capitate.

Fruit :

4mm long covered with ascending white hairs, crowned by the ovate, acute dentate calyx, obovate, compressed, 3 – celled, 1 seeded, the 2 barren cells smaller than the fertile.

Seed : obovate, compressed.

Parts used : Rhizome.

Rhizome : Long stout and woody. It has an agreeable odour with bitter aromatic taste.

GROWTH OF THE PLANT

The flowering takes place during June – July and fruiting in August –October. In the beginning of October, all leaves, turn yellow and become ready for perennation. During the winter, the herb sheds all leaves, gets buried under the snow and remains dormant with the melting of the snow in the beginning of the summer, Jatamansi starts growing.

Regeneration

Natural regeneration takes place by rhizome and seeds. Jatamansi is a wild plant but is occasionally cultivated in India and china. The plant can be cultivated from the cuttings of underground parts or rhizomes as well as from seeds. The plants coming from the cuttings of rhizome grow faster than that from the seeds.

Harvesting

The appropriate time for harvesting jatamansi is october through December. Rhizomes harvested from the 2-3 year old plants give higher yield than young plants.

RHIZOME – JATAMANSI

Synonyms

Nard, Indian spikenard.

Biological name

Nardostachys jatamansi.

Biological source

Jatamansi consists of dried rhizomes of *Nardostachys jatamansi* DC family valerianaceae.

Geographical source

These plants are found in the alpine himalayas at an altitude of 3000 - 5000m. It is grown from punjab to sikkim and in Bhutan.

Cultivation and collection

Jatamansi is a perennial herb propagated by cuttings of the underground parts. The favourable altitude for the Luxurious growth of the plant is 3000 – 5000m.

The rhizomes are collected from the wild grown plants only. The plant is about 10 – 60cm in height and with stout and long woody root stocks.

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Macroscopic features

The drug is usually covered with red to brown fibres which are the accumulated remains of leaf bases. In the fibres remains of aerial shoots are also seen.

Rhizome is cylindrical and with brown to deep greyish fibres, is 1 – 5 cm long and 0.5 – 3cm in diameter. The internal colour of rhizome is red to brown.

If all the leaf bases, aerial shoots, and adventitious roots are removed the rhizome shows rough surface with transvers rings. These rings represent the scars of nodes, leaf bases and the adventitious roots.

Adventitious roots are thin , branched and red to brown in colour odour is slight and aromatic and Taste Aromatic and pungent.

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Commercialization:

The rhizome of jatamansi is used in the preparation of medicinal oils and in perfumery. The dried rhizomes are steam – distilled to yield between 1-2% of essential oil, commercially known as spikenard oil. It can be used in perfumes with an oriental basis, heavy florals, animal amber types etc., It blends well with cedar wood and Lavender.

PHARMACOGNOSTICAL ASPECT

Commercial sample of jatamansi comprises the rhizomes of *Nardostachys jatamansi* detailed pharmacognostic characters of the rhizome have been reported by Mehra & Garg (1962). The rhizomes occur with or without a bit of the tap root attached and covered all over with fibres which are the remnants of the leaf bases. A striking feature is the presence of Interxylary cork in the mature rhizome, in the form of continuous branching angular or fluted tubes occurring within each other. The fission of the rhizome into separate cards in the older regions is due to joining of the outermost.

Interxylary cork ring with innermost cortical cork ring in the primary medullary ray region. Schizogenous cavities are present in the inner cortex. Phloem and xylem parenchyma of the young rhizome. Minute droplets of oil are present in the cork cells. The aerial shoot is generally hollow with a ring of vascular bundles which are embedded in a thick continuous zone of fibrous tissue. The tap root resembles the rhizome in the formation of successive rings of cortical as well as interxylary cork, but does not split into cork.

Macroscopic characters

- Colour - Dark grey rhizomes are crowned with reddish brown tufted fibres
- Odour - Highly agreeable, aromatic
- Taste - Acrid, slightly bitter and aromatic
- Size - Rhizomes are 2.5 to 7.5cm in length
- Shape - Elongated and cylindrical

The fibres present on the rhizomes are the remaining of leaf bases. Rhizomes break easily and internally they are reddish brown in colour.

Microscopic characters

Transverse section of the rhizome is characterised by the presence of outermost 2 – 5 layers of cork cells containing oil globules.

The cortex is marked by the presence of schizogeneous canals. Phloem is in the form of patches and xylem is characterized by vessels vessels have typical scalariform thickening. Cambium is continuous and well marked.

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Epidermis is absent in mature rhizome shows ring or rings of cortical cork broken at some places Between the successive cork rings cortical remains of cortical parenchyma with leaf traces are seen Inter Xylary and Medullary cork is the characteristic feature of this drug.

Interxylary cork occurs in the form of continuous, branched, angular or fluted tubes arranged in one another, outermost interxylary cork ring fuses with innermost cortical ring in the area of Medullary rays and thus in that part rhizome is broken in small cords in the order regions.

- Pharmacognosy by J.S.Qadry
shah and Qadry's.

Adulterant

Mukerjee wrongly described rhizome selinum vaginetum (umbelliferae) found also at higher attitude as jatamansi Morphologically it resembles jatamansi, but differs microscopically in that it contains vittae in young and old rhizomes and roots and fan – shaped crystals of calcium oxalate ; not found in jatamansi.

Further it doesnot contain interxylary and medullary cork and stele doesnot break in cords it contains volatile oil. Volatile oil is used as sedative and analgesic.

- Pharmacognosy by J.S.Qadry
shah and qadry.

Pharmacognostic studies of the commercial samples of *N.jatamansi* revealed the presence of adulterant very similar to genuine *N.jatamansi* in external appearance. The adulterant was found to be the rhizome of *Selinium vaginetum*. The rhizome is covered with a dense tuft of bristly fibres which represent the skeletal remains of leaf bases as in *N.jatamansi*.

Microscopically, however the two can be easily distinguished (Mehra & Jolly, 1963) by the features described below.

The distinguishing characters of *N.jatamansi* and *S.Vaginetum*.

N. Jatamansi	S.Vaginetum
Presence of Interxylary & Medullary cork which results in the splitting of the stele into 4- 6 separate cords in the old rhizome.	Absence of Interxylary of Medullary cork. No splitting of the stele in old rhizome.
Schizogenous cavities in the young rhizome in the inner cortex and parenchyma of phloem and xylem but without any epithelial cells.	Secretory candles lined with epithelial cells present in the cortex, pith and secondary phloem in both the old and young rhizomes and in the root.
Fan shape crystals of calcium oxalate absent in the parenchyma cells oil globules cork cells present	Fan shaped crystals of calcium oxalate present in parenchyma cells.
Oil globules in cork cells present.	Oil globules in cork cells absent.

N.Jatamansi & S.Vaginetum can also be differentiated by the T.L.C pattern of the petroleum ether extracts of the two plants S.Vaginetum contain a number of coumarins viz.angelicin, oroselon, lomatin, selindin and vaginidin, and a flavinoid selenone which are absent in N.jatamansi (Seshadri, 1969).

Chemical Test:

On microchemical studies, N.jatamansi cortex cells appear blue and brown in colour, when the section is treated with strong Iodine. The xylem tissue turns into reddish violet colour and the cork tissue pink by the action of phloroglucinol and Hydrochloric acid (Sharma, 1972).

The 80% alcoholic extract of drug shows bluish - white fluorescence under ultravoilet light.

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PHYTOCHEMICAL ASPECT

In a preliminary chemical study, *Nardostachys jatamansi* was reported to yield 2% of volatile oil, containing an unidentified ester and alcohol, and two alkaloids. (Bose et al., 1957 a).

The rhizomes of *N. Jatamansi* yielded 'Jatamansholic acid' (Chaudry et al., 1951) which was assigned a bicyclic azulenic sesquiterpene structure.

The petroleum ether extract of the rhizomes gave a ketonic principle called 'Jatamansone' (Govindhachari et al., 1958) which was present also in the roots of *Valeriana officinalis*.

The hydrocarbon fraction of the petroleum ether extract *N. Jatamansi* rhizome yielded a known sesquiterpene viz., Seychellene and a new hydrocarbon, seychelene. The hexane extract of the rhizomes of *N. jatamansi* yielded β -Sitosterol (Anjaneyulu et al., 1965).

The neutral fraction of the concrete of roots gave a number of compounds viz., Valeranone, Valeranal, Nardal, Calarenol, Nardostachone, N-hexacosanyl arachidate, n-hexacosanol, calarene, n-hexacosene, isovalerate and β -sitosterol.

The roots of extraction with light petrol yielded norseychelanone, seychellen, patchouli alcohol, and also α - & β pachoulenes (Rucker et al., 1976). The isolation of a sesquiterpene ketone 1 (10) - aristolen - 2- one

along with β -sistosterol and three unidentified compounds ($C_6H_{24}O_3$; $C_{14}H_{24}O$; $C_{15}H_{22}O$) from the petroleum ether extract of the roots has also been reported (Maheswari & Saxena, 1980).

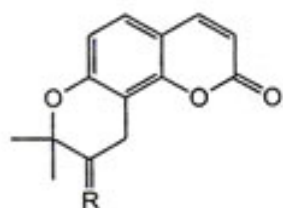
The oil from the *N. jatamansi* roots yielded terpenic coumarins, oroselinol and a new one named as 'Jatamansin' (Shanbhag et al., 1964).

Nardostachnol, 9-dehydroaristolene, 1(10)-dehydroaristolene, 2 β -Maalenine, and 1,2,9,10-Tetrahydroaristolene identified in essential oil. Aristolene-2-one, β -sistosterol and three unidentified compounds isolated from roots.

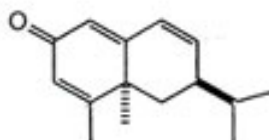
Compendium Indian medicinal plants

Vol.2, Rastogi & Mahrota

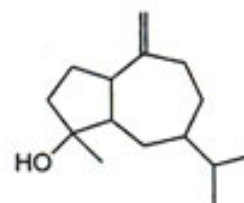
PID, New Delhi 1991, P. 480.



R= O Jatamansone
R=H, OH Jatamansinol
R=H, OCOCMe=CHMe, Jatamansine



Nardostachone



Nardol

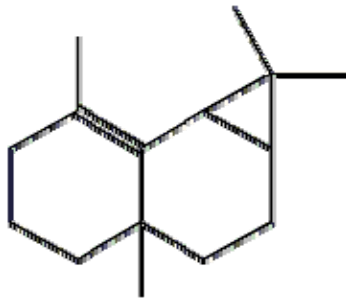
New sesquiterpene ketone – jatamansone – isolated from rhizomes, β -Maaliene and calarene from oil, a new terpenic coumarin – Jatamansin, oroselinol, from roots; α -pinene, β -Pinene, carene, β -eudesmol, elemol, a C_{30} hydrocarbon, β -sistosterol, Jatamansin, angelicin,

Jatamansinol from roots, Nardol from roots. A new diethenoid bicyclic ketone - nardostachrone from roots.

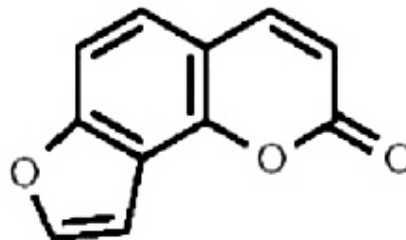
- Glossary of Ind. Med Plants

Chopra, Nayar PID,

New Delhi, 1956 P.173



β - Maaliene



Angelicin

Jatamansi contains volatile oil and volatile oil contains a ketone 'Jatamansone' which is same as valeranone mentioned in valerian possibly it contains 'Jatamansic Acid'.

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Jatamansi contains 1 -2% of pure yellow volatile oil , resin, sugar, starch and bitter principle, an alcohol and its isovaleric ester.

It also contains jatamansic acid and ketones jatamansone and nardostachone.

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PHARMACOLOGICAL ASPECT

(Review of update works on Jatamansi)

Various extracts (Light petroleum, benzene and ethanol) of *Nardostachys jatamansi*, root showed both sedative action in rats as revealed by physical inactivation and potentiation of phenobarbital sodium sleeping time in rats, the hypotensive activity in cats. The ethanolic extract was found most active (Hamied et al., 1962).

The alcoholic extract potentiated hexobarbital narcosis in rat, reduced the rat brain serotonin content, markedly increased the reaction time of trained rat in escaping through the tunnel (in a columbia obstruction box), decrease the conditional avoidance performance in cats and also abolished the tonic extensor response in rats subjected to maximal electroshock seizures. The effect of extract was less than that of diphenyl hydantoin sodium and was associated with signs of neurological deficit (Gupt, 1966).

The ethanolic extract (50%) of *N.jatamansi* rhizomes had no effect on the CNS of Mice. (Bhakuni et al., 1969).

The essential oil from the rhizomes had a depressant action on the CNS of guinea pigs and rats (Chopra et al., 1954).

Jatamansone, the sesquiterpene from *N.jatamansi* was shown to exert tranquilising activity in Mice and Monkey, hypothermic activity in Mice and antiemetic effect in dog (Arora et al., 1962 a).

Further studies on the effect of jatamansone on the biosynthesis and metabolism of serotonin in rabbit brain revealed an impairment of biosynthesis of serotonin in the brain tissue, thus leading to a reduction in the brain levels of 5 hydroxytryptamine. The degradation of serotonin was unaffected (Arora et al., 1962).

Jatamansone was found to be more effective than diphenyl hydantoin sodium and essential oil of Jatamansi in maximal electro shock seizures. However these compounds were ineffective against metrazol seizures. The LD₅₀ of Jatamansone & essential oil of jatamansi by the I.P route in Mice were 350mg / 1kg and 900mg/ kg respectively. (Arora et al., 1958a).

A compound herbal preparation with N.jatamansi, Acorus calamus and valeriana wallichii as ingredients showed CNS – depressant activity in rabbits and also inhibited the post – isolation syndrome in Mice (Moghe et al., 1981).

In another study, aqueous, alcoholic, volatile oil and alkaloidal fraction of N.jatamansi rhizomes and roots were studied for sedative and CVS effects. The alkaloidal fraction showed a significant and sustained hypotensive action in dogs . The fraction also produced a marked relaxation of plain muscles and depression of CNS and mild degree of relaxation of the skeletal Muscle. (Bose et al., 1957b). The action of the aqueous and alcoholic extracts and the total alkaloidal fraction of the tissue respiration in rat brain, liver and heart was studied. The total alkaloids

produced maximum inhibitory effect on tissue respiration leading in higher doses to complete cessation of respiratory activity in these tissues . A sedative action was also observed in rats after parenteral injection of the total alkaloids (Bose et al., 1975c).

The essential oil obtained from the rhizomes of *N.jatamansi* exerted prolonged and pronounced hypotensive effect in dogs. It did not depress the vasomotor centre but blocked the proprioceptive blood pressure regulating reflexes. The oil had negative inotropic and positive chronotropic effect on the heart of the frog and dog . In moderate hypotensive doses it didn't lead to any ECG changes in dogs . It didn't block the ganglionic transmission but showed some adrenolytic action. The oil didnot depress the respiration but on the other hand caused some initial stimulation. (Arora et al., 1958 a).

The oil-free aqueous extract of *N.jatamansi* showed a transient hypotensive effect and electro cardiographic changes in dog's heart, apart from contracting frog's rectus Muscle. The CVS effect of the extract was similar to that of potassium. It could not be ascertained, however, whether all the CVS effects of *N.jatamansi* extract could be explained by the presence of potassium alone. The potassium content of the aqueous extract was found to be 5- 67mg / m1 of the extract (sheth & kekre, 1956)

Jatamansone showed a potent and prolonged hypotensive activity in normotensive and hypertensive rats, normotensive dogs and cats. The hypotensive action was evident in both anaesthetized and unanaesthetized animals (Arora, 1965a).

Anti arrhythmic activity of the volatile oil of *N.jatamansi* was first reported against acetyl – choline induced fibrillations in monged dogs (Arora and Madan, 1955). The volatile oil was compared with Quinidine in another study (Arora and Madan, 1956) and was found to be less active than quinidine as an antiarrhythmic agent against isolated rabbit auricular fibrillation , experimental auricular flutter in anaesthetized dogs, auricular fibrillation induced by aconitine and acetylcholine in dogs. The volatile oil had no effect on Digitalis induced ventricular arrhythmia in dogs. It showed on advantage over quinidine in causing a lesser degree of slowing as tested by the ECG changes in the cat. The acute I.V toxicity of the oil was also lower than that of Quinidine (Arora & Madan, 1956).

Jatamansone was found to be more effective than quinidine as well as the essential oil of *N.jatamansi* in suppressing ectopic ventricular activity in unanaesthetized dogs induced by the two stage coronary ligation. It was however less effective than quinidine against acetyl – choline induced auricular fibrillation in anaesthetized dogs (arora et al., 1958 b).

A compound herbal preparation (khamira Abresham Arshadwala) having N.jatamansi as one of the ingredients lowered the blood pressure in hypertensive rats & also exerted an anti-arrhythmic action (Siddique, 1964).

The alkaloidal fraction of N. jatamansi showed a bronchodilatory effect on isolated tracheal chain of guinea pig. It also partially relieved histamine - induced bronchoconstriction (Bose et al., 1957a). Bronchodilator effect of powdered N. jatamansi fumes and aerosols against histamine induced bronchial Asthma in guinea pigs has been reported. In two different sets of experiments N.jatamansi fumes could not only relieve guinea pigs with acute dyspnoea induced by histamine aerosol, but also protect the animals (When pre treated with N. jatamansi alcoholic extract) against developing dyspnoea on exposure to histamine aerosol (Gupta et al 1961).

The alcoholic extract of N. jatamansi inhibited the constrictor response induced by histamine, serotonin and acetylcholine in isolated smooth muscles (ie Trachea, Colon, Intestine & uterus).

The extract also showed a direct papaverine - like antispasmodic effect on the intestine (Gupta et al., 1962) . There was also reduction in perfusion pressure through the isolated lungs of rats or guinea pig. The alkaloidal fraction of N. jatamansi also antagonized the perfusion outflow caused by histamine and serotonin (Gupta et al., 1963).

Anti bacterial activity in the alcoholic and aqueous extracts of *N. jatamansi* roots was reported against staph aureus and *E.coli* perhaps for the first time by George and Pandalai (1949). In later studies, the alcoholic extract (20%) showed antibacterial activity against strep pyogenes, *sal. postteurella multocida* and *ps. aeruginosa*, although the antibacterial activity of the aqueous extract was not confirmed (Naung et al., 1962) Ethanolic extract (50%) of the rhizomes was reported by the CDRI, Lucknow, to be devoid of antibacterial activity against *B.subtilis*, staph aureus, *sal typhi*, *E.coli*, *A. tumefaciens* and *Mycobacterium tuberculosis H37 Rv* (Bhakuni et al., 1969).

The essential oil of *N.jatamansi* didnot show any antituberculous activity against *M.tuberculosis H37 RV* (Ramaswamy & Susi, 1967). The oil showed weak antibacterial action against staph aureus, *E.coli*, *Sal typhosum*, *Vib cholera*, *shigella flexneri* (chopra et al., 1954) and against *vibrio cholerae*, *salmonella faecalis*, *salmonella typhi*, *clostridium diptheriae* and *streptococcus pyogenes* (Girgune et al., 1978 a).

The ethanolic extract of (50%) the rhizomes was devoid of antiprotozoal activity against *Entamoeba histolitica* (Bhakuni et al., 1969) whereas the oil had a weak action against *p ccaudatum* (Chopra et al., 1954).

The ethanolic extract (50%) of the rhizome showed antifungal actiity agianst *candida albicans*, *cryptococcus neoformans*, *Trichophyton mentagrophytes*, *Microsporum canis* and *Aspergillus niger* (Bhakuni et al.,

1969) , whereas the essential oil have been reported to reveal potent antifungal activity against *Helminthosporium turcicum* and *Alternaria helianthi* (Girgune et al ., 1978 b).

The essential oil of *N. jatamansi* showed anthelmintic activity against *Taenia solium* (Girgune et al., 1978C).

The aqueous extracts of *N.jatamansi* root exhibited diuretic action in rats which compared favourably with that of potassium acetate and was more potent than urea (Gujral et al., 1955).

The ethanolic extract (50%) of the rhizomes showed hypotensive effects in cat / dog and antispasmodic action on isolated guinea pig ileum but was devoid of any hypoglycemic, antiviral or anticancer activities . The LD₅₀ of the extract in Mice was found to be > 1000mg ./ Kg IP (Bhakuni et al., 1969).

The semicarbazone derivative of Jatamansone revealed antioestrogenic activity in mice by inhibiting the increase in uterine weight caused by estrogen alone. When administered alone, the compound had no estrogenic activity but decreased the uterine weight, revealing an antiestrogenic activity (Agarwal et al, 1973).

- Glossary of Indian Medicinal plants

R.N.Chopra, S.L.Nayar

I.C.Chopra.

EFFECTS OF N.JATAMANSI ON BIOGENIC AMINES AND INHIBITORY AMINO ACIDS IN THE RAT BRAIN

The effect of acute and sub chronic administration of an alcoholic extract of the roots of N.jatamansi on nor epinephrine (NE) , dopamine (DA) , serotonin (5-HT) , 5 – hydroxy indoleacetic acid (5 – HIAA) , Gamma – amino butyric acid (GABA) and taurine were studied in male albino wistar rats. The acute oral administration of the extract did not change the level of NE and DA but resulted in a significant increase in the level of 5 – HT and 5 – HIAA. A significant increase in the level of GABA and Taurine were observed in the drug treated groups when compared to the controls. A 15 – day treatment resulted in a significant increase in the levels of NE, DA, 5 HT, 5 – HIAA, Jatamansi causes an overall increase in the levels of central monoamines and inhibitory amino acids.

Authors : Prabhu.v, Karanth K.S, Rao .A,
Dept. of Bio chemistry,
Kasthuribai Medical college,
Karnataka

Journal name : Plant med 1994 Apr ; 60 (2) 114 – 7.

HYPOLIPIDAEMIC EFFECTS OF CURCUMA LONGA AND NARDOSTACHYS JATAMANSI, DC IN TRITON – INDUCED HYPERLIPIDAEMIC RATS

50% ethanolic extract of curcuma longa (tuber) and N.jatamansi (whole plant) feeding elevates HDL - Cholesterol / Total cholesterol ratio. The extracts also caused a significant reduction in the ratio of total cholesterol / phospholipids curcuma longa exhibited better cholesterol and triglyceride lowering activity (Ch – 85% , Tg – 88%) as compared to N.jatamansi in triton - induced hyperlipidaemic rats . In view of the protective action of HDL against heart disease and atherogenicity, curcuma longa consumption is recommended.

PMID : 3215683, UI : 89108563.

Authors : Dixit VP, Jain P, Joshi SC.

Journal name : Indian J physiol pharmacol 1998.
oct - Dec 32 (4) ; 299 – 304.

NARDOSTACHYS JATAMANSI PROTECTS AGAINST LIVER DAMAGE INDUCED BY THIOACETAMIDE IN RATS

Ali S, Ansari KA, Jafry MA, Kabeer H, Diwakar G. (Department of Biochemistry, Faculty of Science, Hamdard University, New Delhi).

Nardostachys jatamansi is a medically important herb of Indian origin used for centuries in Ayurvedic and Unani systems of medicine for the treatment of various ailments. In the present paper, a 50% ethanolic extract of the rhizomes of *N. Jatamansi* is shown to possess hepatoprotective activity. Pretreatment of rats with the extract (800mg/kg body wt, orally) for three consecutive days significantly ameliorated the liver damage in rats exposed to the hepatotoxic compound thioacetamide. Elevated levels of serum transaminases (aminotransferases) and alkaline phosphatase, observed in thioacetamide alone treated group of animals, were significantly lowered in *N. Jatamansi* pretreated rats. Pretreatment of the animals with the extract also resulted in an increase in survival in rats intoxicated with LD90 dose of the hepatotoxic drug.

ISOLATION AND PHARMACODYNAMIC ACTIVITY OF THE SESQUITERPENE VALERANONE FROM NARDOSTACHYS JATAMANSI DC

[Article in German] (Rucker G, Tautges J, Sieck A, Wenzl H, Graf E)

The known sesquiterpene valeranone (= yatamanson) was isolated from the tubterranean parts of *Nardostachys jatamansi* (DC). It was pharmacologically investigated in animal experiments of sedative, tranquilizing and antihypertensive properties. In some experiments, typical for tranquilizers, certain activities could be demonstrated such as the prolongation of barbiturate hyponosis, the impairment of rotarod performance, an anticonvulsive activity on electric shock and potentiation of the body – temperature lowering activity of reserpine. In three other pharmacological models an anti ulcer action was detected. In general the activity of valeranone was lower than those of the standard substances used . As regards the hypotensive property only a weak activity was demonstrated . In toxicological studies on rats and mice an oral LD₅₀ of greater than 3160 mg/kg was found, which suggests the possibility of a therapeutically useful dose ratio.

THERAPEUTIC USES

Jatamansi

Nardostachys jatamansi.

English Name

Musk Root, Indian Spikenard.

Family

Valerianaceae.

Part used

Rhizome, Rhizome oil.

Action

Aromatic	Expectorant
Antispasmodic	Anodyne
Carminative	Antiseptic
Deobstruent	Deodorant
Digestive	Somniferous
Diuretic	Antipyretic
Emmenagogue	Tonic
Nervine Tonic	Aphrodisiac

Uses

Convulsions

Digestive disease

Epilepsy

Flatulence

Gastric disorders

Heart palpitations

Jaundice

kidney stones

Respiratory diseases

skin conditions

Typhoid

Seminal debility.

Therapeutic uses

Jatamansi has the power to promote awareness and calm the mind. It is very useful for palpitation, Tension, headaches, restlessness and is used for promoting awareness and strengthening the mind. It aids in balancing the body of all three ayurvedic doshas. The herb's sedative properties increases awareness as opposed to valerian that dulls the mind.

Jatamansi is a useful hair tonic and is commonly used in hair oil, promoting hair growth and lustre. It is also used in oils and pastes that improve complexion and general health of the skin.

No side effects have been noted so far.

It is very interesting to note that in condition of insomnia, and restlessness this drug was used by sushruta to produce tranquility and sedation. Infusion prepared from the fresh roots is employed in the treatment of spasmodic hysterical states, palpitations and tension headache. It is also said to be useful in menopausal disturbances.

Clinical trials were carried out with jatamansone in essential hypertension. Jatamansone has been used in febrile delirium and also in delirium tremens. In dysmenorrhoea, it is used for pain relief and a smooth menstrual flow. Nardostachys was recommended in the Ayurvedic tradition for nervous and spasmodic symptoms, such as heart palpitations, headache, shaking and convulsions. The active constituents of Nardostachys are similar to those found in valerian. In India, modern research with the herb has been aimed at examining new uses rather than the traditional ones; It is being examined for its liver protective effects, ability to increase nerve growth factor and Lipid lowering effects.

The oil possesses antiarrhythmic and hypotensive activity. Jatamansone, an active principle of Nardostachys, brings forth a significant reduction in hyperactivity, restlessness and aggressiveness in hyperactive children.

Cosmetic application

Jatamansi is a useful hair tonic and is commonly used in hair oils, promoting hair growth and lustre. It promotes hair growth and imparts black colour to the hair. It is also used in oils and pastes that improve complexion and general health of skin.

In Germany and Japan, some interest in this herb as an alternative to valerian has been shown, in that preliminary experiments (in Laboratory animals) show that it has an even lower toxicity than valerian (which already has low toxicity).

- www.wikipedia.org

Jatamansi is useful in vitiated conditions of pitha and vadha, burning sensations, cough, Asthma, Bronchitis, Pectoralgia, Cephalgia, Inflammations, Somatalgia, Dyspepsia, colic, flatulence, Hepatopathy, Nephropathy, Strangury, Amenorrhoea, dysmenorrhoea, Lumbago, pharyngopathy, dermatopathy, Leprosy, erysipelas, epilepsy, hysteria, convulsions, neurosis, hypertension, Grey hair, falling of hair, Intermittent fever, General debility.

- Indian Medicinal plants

(A compendium of 500 species)

orient longman

Jatamansi roots should also be used fresh as an aromatic adjunct in the preparation of Medicinal oils & in perfumery. Jatamansi is a good substitute for the official valerian. Infusion prepared from fresh roots is employed in the treatment of spasmodic hysterical affections, especially palpitation of heart, Nervous headache, chorea, flatulence etc., in doses of 1-2 ounces 3 times daily.

It is said to be useful also in menopause disturbances, hystero - epilepsy & similar nervous and convulsive ailments.

Dose : 10 -20 grains in powder. It may be usually combined with a few grains of camphor & cinnamon.

Volatile oil from rhizome can be used in many diseases of digestive, respiratory organs and in jaundice, also in leprosy. It is also employed mixed with sesame oil, it is rubbed on the head as a nerve sedative. It also promotes growth & imparts blackness to hair.

- The Indian materia medica

A.K. Nadkarni.

Spikenard oil possess antiarrhythmic activity in cases of auricular flutter, it is also effective than quinidine, but has the advantage of being less toxic.

Jatamansone is more potent than the oil & is also more active than quinidine ventricular Tachycardia resulting from acute MI in experimentally induced arrhythmias, it is as effective as quinidine except in the Acetyl choline induced Auricular fibrillation in which it is considerably weaker.

Jatamansone possess Anticonvulsant action as well. The oil exerts a hypotensive effect & in moderate doses it has a distinct depressant action on the CNS. Lethal doses causes deep necrosis & Ultimately death within few hours. The root extracts show sedative properties.

A tincture of rhizome is given in intestinal colic & flatulence. The rhizome is used as an aromatic adjunct in the preparation of Medicinal oils.

- Wealth of India Vol VII.

Therapeutic Uses

In other system of Medicine

Ayurveda

Roots are acid, bitter with a flavour tonic, cooling, antipyretic, cure 'Tridosha', 'kapha', Bilioussness, diseases of blood, burning sensation. Erysipelas, leprosy, skin diseases, throat troubles, ulcers, improve the complexion.

They also have antispasmodic effect and are often employed in treatment of epilepsy, hysteria, convulsive affection, palpitation of heart, intestinal colic. It enters into the composition of a compound powder which is burnt and used for inhalation in bronchial affection.

The rhizome, in combination with other drug is prescribed in snake bite and scorpion sting.

- Charaka, Sushruta.

Unani:-

The roots have a bitter sharp taste, tonic stimulant, diuretic, emmenagogue, carminative, and stomachic, laxative.

If increases the lusture of the eyes.

If promotes growth, blackness of hair.

Also useful in gleet, cough, chest pain intestinal inflammation. Kidney and lumbar, troubles, dry wounds and increase the appetite.

- Indian Materna Medica

A.K. Nadkarni Vol – 2.

Therapeutics:

1. It is prescribed as nervine tonic and aromatic adjunct in the preparation of Medicinal oils and gritis.
2. In doses of 45gms, it is used as an expectorant in coughs and cold.
3. It is used in treatment of epilepsy, hysteria, and convulsive affections.
4. It is used in palpitation of the heart.
5. It is administered suspended in mucilage with cinnamon water and is given as a carminative in cases of flatulence and as reflex stimulant in vomiting palpitation.

- Pharmacopoeia India, K.C.Bose P.No. 122.

SPIKENARD OIL

Synonyms : Nardostachys jatamansi root oil

Nard root oil

Indian valerian root oil

Method of extraction

Jatamansi oil is obtained by steam distillation of dried rhizomes of N.Jatamansi DC.

Organoleptic properties

- Appearance** : Fluid to slightly viscous liquid.
colour : Varies from amber to deep blue or greenish blue.
Aroma : Heavy, Sweet - woody and spicy - animal odor.

Physio – chemical properties

- Specific gravity** : 0.9300- 0.9587 at 25°C.
Refractive index : 1.5055 – 1.5458 at 25° C.
Acid number : 1.5 – 8.
Ester number : 6 – 45.

Ester number after

- Acetylation** : 40 – 65.
Solubility : Soluble in 0.4 – 1.5 vol of 90% alcohol.

Chemical constituents

Spikenard oil contains an alcohol ($C_{15}H_{24}O$) and its isovaleric ester, a saturated bicyclic sesquiterpene ketone, jatamansone ($C_{15}H_{26}O$ b- p 108°) has been isolated from the rhizomes.

Actions

Stimulant

Antiseptic

Insect repellent

Spikenard oil – medicinal uses :

1. The oil possess antiarrhythmic activity with possible therapeutical usefulness in cases of auricular flutter. It is less effective than Quinidine but has the advantage of being less toxic.
2. The oil exerts a hypotensive effect and in moderate doses it has a distinct depressant action on the CNS.
3. It is also believed to be useful for leprosy.
4. It promote hair growth & helps in maintaining its color as well.
5. It can be used in many diseases of digestive, respiratory organs and in jaundice.
6. It is also employed mixed with sesame oil for rubbing on the head as a nerve sedative.
7. It is used in the treatment of stomachache, constipation and cholera.

GUNAPADAM ASPECT

°¼;Á;ï°ç - **Jatamansi**

Nardostachys jatamansi

§ÅÛ |ÀÂ÷,û - **Synonyms**

- ❖ °¼;Á;ï°ç
- ❖ f¼;Á;ï°ç
- ❖ "À°;°ç
- ❖ Á;Áç°ç
- ❖ â¼§,°çÉç
- ❖ °Ê"Ä

- Ì½À;¼õ äÄç", ÅÏòò 6õ À¼çòò,2002 À.±ñ:

311

" °¼;Á;ï°çò §À÷¼"É§Ä °;üÈì§,Û

¼ÄÍÁç½çî °¼;Á;ï°çî °;ò¼çÉçÔÁ;Ì

¾¼;Á;ï°çò Àç°;°çÿÈÿ ççÉÁ;¼;

¼;ì,;É °¼;â¼°¼;,ç Ò%½;Á;Ìõ

Ò¼Á;ï°ç ,çôâ¼ §,°ÉçÔÁ;Ìõ

Ò,Æ;É §À°çÁ; Í",ÔÁ;Ìõ

ç¼Á;ï°çÃò¼ Àçò¼° ÁÉçÁ;Ìõ

ç;öÊÂ§¼;÷ °¼;Á;ï°ç ç;ÁÁ;§Á".

§À;,.ÓÉçÁ÷ çç,ñî 1200 À¼çòò §Á'1992

À¼çòò;°çÃçÂ÷: ±Š.±ÿ.pÃ;Á°ó¼çÃÿ, À.±ñ

- 206.

- ❖ ¼ÄÍÁçÉç
- ❖ °¼;Á;ï°ç

- ❖ ° ; ò¼çÉç
- ❖ Àç ° ; ° çÉç
- ❖ , çÕ%½ ;
- ❖ pÃð¼ Àçð¼ ° ÁÉç

§¼ ; üÈõ

pÐ Ò¼Ã ; , À¼Õõ | ° ÊÁ" , . pÁÁÁ"Áî ° ; ÃÃçø Åç"ÇÕõ. p¼ý
 §ÁÃçý §Áø ÀíÍ§À ; ø ° ; òÀø ççÈáíí , ; ½ÒÀîõ. §Ã ; f ; "Áô §À ; ýÚ
 ÁÃ÷ , ú | , ; ðÐì | , ; ò¼ ; , §¼ ; ýÚõ. p¼ý §Á÷ çÚÁ½õ | , ; ñÈÕììõ.

p¼üî çfn¼ -½ç§ÁÕõ, ÀÀ ° øÄç §Á÷ , Ûõ -ñî. Ò¼çÂ §ÁÕìì
 pÉçðõõ, «¼ç, , ; ÃÁ ; É Á½ÓÁçÕììõ ç ; ð | ° ýÈ ; ø ç ; üÈõ | ÀÚõ.

- «ìÉç§Á°Ãçý °Ã, °ø+ç"¼ 3õ Àî¼ç
 À¼çðÀ ; ° çÃçÂ÷ : ±Š . ±ý . pÃ ; Á°ó¼çÃý
 À . ±ñ : 332 Ó¼ø À¼çðõ - , Šð 1987

Á" , , ú:- (Varieties)

- I.**
1. °É"Á °¼ ; Á ; ì ° ç
 2. ç ; ðî °¼ ; Á ; ì ° ç

°É"Á pÉõ

Á¼ - ° çÂ ; , Á¼ , ; ŠÁÉÃõ, àð¼ ; ý Ó¼ÄçÂ À ; , í , Ççø
 ÀÄçÃ ; , çýÈ pÕÁ" , áí§ , ; "¼ pÉõ.

pùÄçÃñÈüìõ ì½õ °ü§ÈÈìì"ÈÂ ´ð¼çÕììõ ±ýÀÐ | , ; ú" , .

- ì½À ; ¼õ äÄç" , Áîðõ 6õ
 À¼çðõ, 2002
 À . ±ñ : 311

- II.**
1. °¼ ; Á ; ò...ç - , ÕççÈõ | , ; ñ¼Ð.
 2. Í , ó¼ °¼ ; Á ; ò...ç - | Áñ½çÈÓ"¼ÄÐ.

3. -, ;â Á;õ...ç - Áî°û ççÈÖ"¼ÂÐ.

, "¼Âçø Åçü, ðÀÎÂÐ , ÕççÈ ÓûÇÐ -Îõ.

- «îÉç şÅ°Ãçý °Ã, °õ+ç"¼ - 3õ

ÀÎ¼ç

À¼çôÀ; °çÃçÂ÷: ±š.±ý.þÃ;Á°ó¼çÃý

Ó¼ø À¼çôð -, šđ 1987À.±ñ :

322.

ÀÂýÀîõ -Úðð : şÅ÷

Í"Á : Àî"°Âçø -þÉçðð

, ;öó¼Ãçý - , ;÷ðð

¼ý"Á : |ÁðÀð

ÀçÃç× : , ;÷ðð

- î½À;¼õ ãÃç", Áîðð À.±ñ: 311

6õ À¼çôð, 2002

°;¼;Ã½ Á;õ...ç : , ;÷ðð, , °ðð Í"Á |, ;ñ¼Ð

Í, ó¼ °¼;Á;õ...ç : , °ððîÍ"Á, îÛ"Áð¼ý"Áðð,

çÚÁ½Óð |, ;ñÈÕîîõ, ¼"ÄÓÊ"Á

Åç÷îîõ, -¼øççÈð"¼ °çÁðÀ;îîõ

-, ;â Á;õ...ç : îÛ"Áð¼ý"Á -"¼ÂÐ.

«îÉçşÅ°Ãçý °Ã, °õ+ç"¼ - ãýÈ;õ ÀÎ¼ç

À¼çôÀ; °çÃçÂ÷ : ±š.±ý.þÃ;Á°ó¼çÃý

Ó¼ø À¼çôð -, šđ 1987À.±ñ: 322

|°ö", :-

|ÁðÀðñ¼;î, ç

þ°çÁ, üÈç

°çÚç£÷ð |ÀÕî, ç

š, i "EA, üÈç

|Ä;Đİ½õ:-

" İ ð¼õ °çÄó¼çÅç¼õ š, i ÄÒÄ;½ ÍÃõ

- ðÊ½í, i ø šÄ¼ç , ñš½;ö ´ðÊÕÁø - |°;ðÊÄð¼

Àçð¼Áç"Ãô šÄìõ |ÄÕís, i "Ã ±ýÚ"Äìõ

Íð¼ °¼;Á;ï°ç"Äî |°;ø "

- «, ð¼çÄ÷ İ½Ä; ,¼õ

(p-û) p¼üì İð¼õ, °çÄó¼ç çíí, À"EA ÍÃõ, -ðýî, Å;Ô, ,Æçí°ø, ,ñ š;ö, pÕÁø, p"Ãôð, İÕ¼çÄÆø çííõ.

" |Á;Æç°¼; Á;ï°ç šÁý"Á Ó¼ç÷Í"Ä , , i Ä¼çì¼õ

ÅÆç¼õ ÁĐÄï °ç¼ÅÆÄçÄí , İÅçÀ; , |ÁýÄ

|Á;Æç, Äõ Äð¼Äçð¼ |Á;õ ÅÕÄ;öx İ¼õ

´Æç¼õõ Åç, ð¼çšÉ;î ÓüÈçİÅç , ÷ôÀó ¼ç÷ìõ "

°¼;Á;ï°ç. , , i Ä, ¼çì¼, ÁĐÄ Í"Ä, "çÕõ, °ç¼ÅÆ÷Äð"¼Õõ, , İÅçÀ; , ð"¼Õõ -"¼ÄĐ. , Äõ, pÄð¼Äçð¼õ Å;öx, İ¼õ, Åç, õ, Åç...÷ôÄõ šÄ;ìõõ.

", Õ¼çÄ ÄÄç"Á Òð¼ç , i ó¼çÔ Á;ìì ÁýÈç

ÄÕĐÄ÷ ä¼Á;¼ç š¼; , "Óõ ÅÈðÊ šÄ;ðîõ

ÁçÕĐÄ; ÄÄç"Ä Åç÷í°ç Áçİð¼çîí , ó¼Á;õ...ç

|ÄÄçĐÄ÷ İ½ÓÁçš¼ |ÄýÈÉ÷ |ÄÄçšÄ;÷¼;šÁ" .

°¼;Á;ï°ç, ÄÄõ, Òð¼ç, , i ó¼ç, š, °Åç÷í°ç -ñîÄñîõ, ä¼, "Ä°;ï š¼; , "í, "çô šÄ;ìõõ. ÒÄ;½ÍÃõ, «š¼ç , i í" , , «¼ç°;Äõ, pÕÁø, ,ñš½;ö pÅü"Èõõ ¼ç÷ìõõ. p¼ý šÄ¼Á; , çÈ , ó¼Á;õ...çìõõ pìì½í, šç -îõ ±ý, .

- Ä¼;÷ð¼ Äï°î½ Äï°Äç

À.±ñ: 181-182.

°;¼;Ã½ °¼;Á;õ...ç - à¼ò¼;ø §¼;ýÚõ ÐýÀí,"çÔõ,
,;öî°"ÄÔõ, çî"°Ôõ §À;ììõ.

Í,ò¼Á;õ...ç - ãýÚ §¼;„í,û, à¼í,ç;ø §¼;ýÚõ ÐýÀõ, ,çÃ,
§¼;„Á, þÃò¼ Àçò¼õ, ,;öî°ø, çîí - ,çÃü"Èõ §À;ììõ.

- ,;ÁÁ;õ...ç - Åèì,õ, ÅçÃ½õ, çÃòòî°çÄò¼ç
°çÄò¼çòâî°çÄçý Åç„õ, «ì,ç, «õ"Á Ó¼ÄçÃü"È §À;ììõ.

«ìÉç§Å°Ãçý °Ã,°õ+ç"¼ - 3õ Àì¼ç

À¼çòÀ;°çÃçÃ÷: ±Š.±ý

þÃ;Á°ò¼çÃý

Ó¼ø À¼çòò - ,Šõ 1987À.±ñ: 322.

வழக்கு:

சீமை இனத்தைப் பொடி செய்து 10 - 20 குன்றி எடை நீரில் கலந்து நாள்
ஒன்றுக்கு இரண்டு, மூன்று முறை கொடுக்க பழைய சுரம், வலிப்பு நீங்கும்.

முக்கால் வராகனெடை கொடுக்க கோழையை வெளிப்படுத்தும்.

நாட்டு இனத்து சடாமாஞ்சியை நசுக்கி, இரண்டு வராகனெடை எடுத்து
ஓர் ஆழாக்கு வெந்நீரில் 1 மணி நேரம் ஊற வைத்து வடிகட்டி, அரைக்கால் முதல்
காலாழாக்கு வீதம் தினம் மும்முறை கொடுத்துவர சூதக சன்னி, வலிப்பு இவை
நீங்கும்.

இதிலிருந்த ஒரு வகை மஞ்சள் நிறம் பொருந்திய எண்ணெய் எடுக்கப்படும்
இதை மேற்கூறிய நோய்களுக்கு கொடுப்பதுடன் நரை மயிர் கறுப்பதற்கும்
இதைத் தடவுவதுண்டு.

- குணபாடம் மூலிகை வகுப்பு ப.எ.416.

6õ À¼çòò, 2002

சடாமாஞ்சில் வேரை கொத்துமல்லிக் கீரைச் சாற்றில் உரைத்து வடிகட்டிக் கண்களில் 1-2 துளிவிட கண் சிவப்பு மாறும் . பார்வை தெளிவுபடும்.

தலையில் தடவ மயிர் வளரும்.

இந்தச் சரக்கு விசேஷமாக , காக்கை வலி, சூதக சந்தி, சுவாசகாசம், மந்தாக்கினி, குடைச்சல், இருதய துடிப்பு , மேல் சுவாசம், மூர்ச்சா ரோகம் முதலியவைகளுக்கு பயன்படுகிறது.

- சித்த வைத்திய பதார்த்த குண விளக்கம்.

À¼çòò, 1998 ப.எ.304.

சடாமாஞ்சில் வேர் உபயோகம் : ½ பலம் வேர் எடுத்து நொறுக்கி , ½ படி நீரிலிட்டு ¼ படியாய் வற்றக் காய்ச்சி வடித்துக் கொடுக்க இரைப்பு , இருமல் சுவாசம் சுரம் இவற்றிற்கு கொடுக்க நன்று.

- அனு- வை பிரம்ம ரகசியம் ப.எ. 284

ò¼üÀ¼çòò Á;÷î 1999

சடாமாஞ்சில் வேரை இடித்து சூரணம் செய்து வேளைக்கு ¼ வராகன் தேனில் இருவேளை கொடுக்கலாம்.

(அல்லது)

2 வராகன் சடாமாஞ்சியை நசுக்கி ஒரு மட்கலயத்தில் போட்டு ¼ படி சலம் விட்டு 1/8 படியாய் சுண்டக் காய்ச்சி வடிகட்டி வேளைக்கு 1-2 அவன்ஸ் வீதம் தினம் இருவேளை கொடுக்கலாம்.

இவை இரைப்பைக்கும் , ஈரலுக்கும் பலம் கொடுக்கும்.

உதிரசிக்கலை நீக்கும்.

நீரை வறட்டும்.

தீபனத்தை உண்டாக்கும்.

இதனை அதிக அளவாயும் , நீடித்தும் தரக்கூடாது அங்ஙனம் கொடுக்க தலைவலி , மயக்கம் , பார்வை மந்தம் உண்டாகும் இன்னும் இதை இதர சரக்குகளுடன் கூட்டி உபயோகப்படுத்துவதுமுண்டு. எங்ஙனமெனில் ,

சடாமாஞ்சில் சூரணம்

சடாமாஞ்சில்	-	4 வராகன்
கருவாப்பட்டை	-	1 வராகன்
வால்மிளகு	-	1 வராகன்
சோம்பு	-	1 வராகன்
சுக்கு	-	1 வராகன்

இடித்து சூரணிதது 2 வராகன் சர்க்கரை கூட்டி வேளைக்கு $\frac{1}{2}$ - $1\frac{1}{2}$ வராகன் தினம் இரு வேளை கொடுத்து வர, வயிற்றுப்புசம் , வயிற்றுவலி , மூர்ச்சாரோகம் குணமாகும்.

- Indian Materia Medica A.K.Nadkarni, Vol-1. Print 1993

சடாமாஞ்சில் வேர் சேரும் காசத்திற்கான மருந்துகள்:

1. தாளிசபத்திரி சூரணம்

இரு வேளை திரிகடி வீதம் கொடுக்க காசம் - 5, ஷயம் - 4 தீரும்.

- அனுபோக வைத்திய பிரம்ம இரகசியம் முதற் பதிப்பு மார்ச் 1999

- கோஷாயி ப.எ.102.

2. தூதுவளை கிருதம்

2 வராகன் வீதம் இரு வேளை கொடுக்க, ஈளை, இருமல், காசம் - 5, சுவாசம் - 5, இரைப்பு, பொருமல் தீரும்.

- அனு . வை. பிர. ரகசியம் - கோஷாயி . ப.எ: 117.

3. புனர்னவாதி லேகியம்

காசம் , சுவாசம் குணமாகும்.

- அனு வை தேவ ரகசியம் (ப.எ.: 383).

4. பிரஹல்லவங்காதி சூரணம்

காசங்கள் குணமாகும்.

- அனு . வை. தேவ ரகசியம் (ப.எ.391).

5. தாளிசாதி சூரணம்

இருமல், ஷயம் தீரும்.

- அனு. வை. தேவ ரகசியம் (ப.எ. 401).

6. இலவங்காதி சூரணம்

இருமல் , ஷயம் தீரும்.

- அனு. வை. தேவ ரகசியம் (ப.எ.401).

7. அசுவகந்தி சூரணம்

- அனு . வை. தேவ ரகசியம் (ப.எ. 365).

8. கற்பூராதி சூரணம்

- அனு . வை. தேவ. ரகசியம் . (ப.எ.365).

9. சருவாங்க எண்ணெய்

தலை முழுகி வர கபம், காசம், பீனிசம் தீரும்.

- மருந்து செய்முறைகள் பதிப்பு அக்டோபர் 1985 (ப.எ.38).

10. கண்டங்காரி நெய்

3 கழஞ்சி உண்டு வர சுவாசகாசம் தீரம்.

- மருந்து செய்முறைகள் (ப.எ.38).

11. வில்வாதி குழம்பு

புன்னைக் காயளவு இருவேளை உண்டுவர இளைப்பு, இருமல், ஈளை குணமாகும்.

- மருந்து செய்முறைகள் (ப.எ. 62,63).

12. ஈளை, இருமலுக்கு லேகியம்

- உயிர்காக்கும் சித்த மருத்துவம் முதற்பதிப்பு அக்டோபர் 2000
(ப.எ.20).

13. மூதண்ட லேகியம்

கழற்சிக் கொட்டை பிரமாணம் அந்திசந்தி உண்டு வர இருமல், சுவாசம், தொண்டைக் கட்டு தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் (ப.எ.195).

14. குழந்தைகளுக்க குமாந்தக் கியாமம்

1-2 தேக்கரண்டி வீதம் தினம் 3-4 வேளை கொடுத்துவர, கபத்தினுபரி, சுரம் தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் (ப.எ.86).

15. ஜீவரஷாமிர்த சூரணம்

ஈரல்குலை நோய்க்கு நன்மை தரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் (ப.எ.121).

16. மஹாவில்வாதி லேகியம்

வேளைக்கு கொட்டைப் பாக்களவு சாப்பிட, 42 சயகாசம் பித்தம், அன்னத்துவேஷம் தீரும்.

- சிகிட்சராத்தந தீபம் 2ம் பாகமாகிய வைத்திய சிந்தாமணி (ப.எ.178).

17. அரக்குத் தைலம்

வாரம் 1 முறை ஸ்நானம் செய்துவரின், சுவாசகாசம், புராதன சுரங்கள், நளிர்சுரம் தீரும்.

- சிகிச்சாரத்ந தீபம் இரண்டாம் பாகமாகிய
வைத்திய சிந்தாமணி (ப.எ.193).

18. டக்காமல்லித் தைலம்

வாரம் ஒரு முறை தலைமுழுகி வர, அளவு கடந்த தும்மல், தலைபாரம் குணமாகும்.

- சிகிச்சாரத்நதீபம் 2ம் பாகமாகிய வைத்திய சிந்தாமணி (ப.எ.198).

19. இலவங்காதி சூரணம்

வேளைக்கு ½ தோலா தினம் இருவேளை 20 நாள் உட்கொள் இருமல் , இரைப்பு தீரும்.

- சிகிச்சாரந்த தீபம் எண்ணும் வைத்திய நூல், பதிப்பு 1991 (ப.எ.123).

20. கஸ்தூரி மாத்திரை:

குழந்தைகட்கு மார்பில் கோழை மிகுந்திருப்பின் முசுமுசுக்கைச் சாற்றில் இரும்பை சிவக்கக் காய்ச்சி தோய்த்து வடித்த ரசத்தில் உரைத்துக் கொடுக்க நிவர்த்தி ஆகும்.

- சிகிச்சாரத்ந தீபம் வைத்திய நூல் பதிப்பு 1991 (ப.எ.127).

21. திரிபலாதி சூரணம்

திரிகடி பிரமாணம் அந்திசந்தி தேனில் மத்தித்து சாப்பிட்டு வர சீதள சம்பந்தமான ஈளை, காசம், இருமல் தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் (ப.எ.116).

MATERIALS AND METHODS

(Sadamanjil Ver Chooranam)

Collection of the Drug

Rhizomes of the plant were collected from Gopalan Asan raw drug store, Nagercoil after identification.

Purification of the raw Drug

After collection it was cleaned thoroughly with fresh water and cut into small pieces (app. 1-2 inches) , allowed to dry completely under sun shade for about 6-7days till the moisture was completely lost.

Preparation of the Test Drug

The dried purified sadamanjil ver pieces were made into a fine powder (chooranam) and filtered by a white cloth (Vashthirakayam)

Purification of the Test Drug (Chooranathooimai)

Sadamanjil ver chooranam was moistured with cowmilk. An earthen pot was taken and half filled with a mixture of cow milk and water. The mouth of the pot was covered with a cotton cloth and tied around its neck. The chooranam was placed on the cloth and another earthen pot was placed over the mouth of the pot completely covering the chooranam and the edges of the pots were covered with a moistured cloth. Then the

contents were boiled till the chooranam was fully cooked (pittaviyal). Then it was taken and dried in sunlight.

Route of Administration

Enteral.

Dose

One gram thrice a day with hot water after food. The prepared Sadamanjil ver chooranam used for the treatment of Eraippu Erumal was analysed by the following methods.

1. Bio – chemical analysis
2. Pharmacological analysis and
3. Clinical assessment.

BIO-CHEMICAL ANALYSIS

BIO-CHEMICAL ANALYSIS OF SADAMANJIL VER CHOORANAM

PREPARATION OF THE EXTRACT

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

QUALITATIVE ANALYSIS

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	<u>TEST FOR CALCIUM</u> 2ml of the above prepared extract is taken in a clean test tube. 2 ml of 4% Ammonium oxalate solution is added to it.	No White precipitate is formed.	Absence of calcium.
2.	<u>TEST FOR SULPHATE:</u> 2ml of the extract is added to 5% barium chloride solution.	No white precipitate is formed.	Absence of sulphate.
3.	<u>TEST FOR CHLORIDE</u> The extract is treated with silver nitrate solution.	No white precipitate is formed.	Absence of chloride.

4.	<u>TEST FOR CARBONATE</u> The substance is treated with concentrated HCL.	No brisk effervescence is formed.	Absence Of Carbonate.
5.	<u>TEST FOR STARCH</u> The extract is added with weak iodine solution.	Blue colour is formed.	Indicate the presence of starch.
6.	<u>TEST FOR IRON-FERRIC</u> The extract is treated with concentrated Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed.	Absence of ferric iron.
7.	<u>TEST OF IRON</u> <u>FERROUS:</u> The extract is treated with concentrated Nitric acid and ammonium thio cynate.	No Blood red colour is formed.	Absence of ferrous iron.
8.	<u>TEST FOR PHOSPHATE</u> The extract is treated with ammonium Molybdate and concentrated nitric acid.	No yellow precipitate is formed.	Absence of phosphate.
9.	<u>TEST FOR ALBUMIN</u> The extract is treated with Esbach's reagent.	No yellow precipitate is formed .	Absence of Albumin.
10.	<u>TEST FOR TANNIC ACID</u> The extract is treated with ferric chloride.	No blue black precipitate is formed.	Absence of Tannic acid.

11.	<p><u>TEST FOR UNSATURATION</u></p> <p>Potassium permanganate solution is added to the extract.</p>	It gets decolourised.	Indicates the presence of unsaturated compound.
12.	<p><u>TEST FOR THE REDUCING SUGAR</u></p> <p>5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts.</p>	No colour change occurs.	Absence of Reducing Sugar.
13.	<p><u>TEST FOR AMINO ACID:</u></p> <p>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninhydrin is sprayed over the same and dried it well.</p>	No Violet colour is formed.	Indicates the presence of Amino acid.

INFERENCE

The given sample of Sadamanjil Ver Chooranam contains Starch, Amino acid and unsaturated compounds.

PHARMACOLOGICAL ANALYSIS

ANTI-SPASMODIC EFFECTS OF SADAMANJIL VER CHOORNAM ON ISOLATED RABBIT ILEUM

Aim

To find out the anti-spasmodic effects of Sadamanjil Ver Choornam on isolated rabbit ileum.

Preparation of the test drug

1gram of the Sadamanjil Ver Choornam was dissolved in 10ml of water and boiled for 15minutes. The filtrate was used for the experiment.

Solution required

Aceteyl – choline – 1mg/ml. Atropine 0.5mg/ml.

Test drug (Sadamanjil ver choornam) 100mg/ml.

Nutrient solution

Tyrode – 1 to 2 litres.

Tissue used

Rabbit ileum.

Apparatus Required

Student's organ bath, sherrington rotating drum.

Procedure

A rabbit was starved for 48 hours and was allowed water ad-libitum. It was sacrificed by a blow on the head and by carotid bleeding. The abdomen was quickly opened and the ileo-caecal junction was found out. A small piece of ileal portion was cut, removed and placed in a dish containing warm aerated **Tyrode Solution**. The lumen of the ileum was gently rinsed out by pushing **Tyrode Solution** into it, 3cms length segment was cut from this part of ileum and was tied with thread on both ends without closing the lumen and the tissue was mounted in the organ bath containing **Tyrode Solution** maintained at 37°C bubbled with air by an oxygen tube.

First the drum was allowed to run for 1 minute from the baseline. Drugs are given to study the inhibiting effect of Acetyl-choline 0.2ml (1mg/ml) of Acetyl-choline was added and allowed to run the drum for 30 seconds. Thus the tissue was standardised and then the drum was stopped and the Acetyl – choline was washed out.

Again the **Tyrode Solution** was added to the organ bath till the lever comes to the baseline. The drum was allowed to run for 1 minute.

To the organ bath 1ml of test drug and 0.2ml (1mg/ml) Acetyl-choline was simultaneously added and the drum was allowed to run for 30 seconds. The response was recorded. Then the drum was stopped and the Acetyl-choline solution and test drug solutions were washed out. Then the

above experiment was done for 0.2ml dose of Acetyl-choline. The drum was allowed to run for 30 seconds. The response was recorded.

Then 0.2ml of Atroprine and 0.2ml of Acetyl-choline was added and the drum was allowed to run for 30 seconds. There is no elevation in the graph and it seems to be baseline. Then 0.2ml of Acetyl-choline was added to standardise the tissue. Then the tracing was labelled and fixed.

Inference

From the graph it is inferred that the test drug antagonise the effect of Acetyl-choline when added together. So the drug has got **significant anti-spasmodic activity**.

ANTI – HISTAMINE STUDY OF SADAMANJII VER CHORANAM ON ISOLATED GUINEA PIG ILEUM

Aim

To study the anti-histamine effect of sadamanjii ver chooranam on isolated Guinea pig ileum.

Preparation of the Test drug

1 gm of Sadamanjil ver choornam was dissolved in 10ml of water and boiled for 15 minutes. The filtrate was used for the experiments.

Solutions required

Histamine – 1 in 1,00,000 strength.

Anti histamine (pheniramine maleate 22.75mg/ml).

Test drug (Sadamanjil Ver Choornam) 100mg/ml.

Nutrient Solution

Tyrode – 1 to 2 litres.

Tissue Used

Guinea Pig ileum.

Apparatus Required

Student's organ bath.

Sherrington rotating drum.

Procedure

An overnight fasted Guinea pig weighing about 400 gms was sacrificed by a blow on the head and by carotid bleeding. The abdomen

was suddenly opened and ileo caecal junction was found out. A Small piece of ileal portion was cut and placed in a dish containing warm aerated **Tyrode Solution**. The lumen of the ileum was gently rinsed out by pushing **Tyrode Solution** into it, 3cm length segment was cut from this part of ileum, and was tied with thread on both ends without closing the Lumen and the tissue was mounted in the organ bath containing **Tyrode Solution** maintained at 37°C and bubbled with air by an oxygen tube.

First the drum was allowed to run for 1 minute from the baseline. Drugs were given to study the inhibiting effect of Histamine. 0.2ml (10mg/ml) of Histamine was added and allowed to run the drum for 30 seconds. Thus the tissue was standardised and then the drum was stopped and the Histamine was washed out.

Again the **Tyrode Solution** was added to the organ bath till the lever comes to the baseline. The drum was allowed to run for 1 minute.

To the organ bath 1ml of test drug and 0.2ml (10mg / ml) Histamine was simultaneously added and the drum was allowed to run for 30 seconds. The response was recorded. Then the drum was stopped and the histamine solution and test drug solutions were washed out. Then the above experiment was done for 0.2ml dose of histamine. The drum was allowed to run for 30 seconds. The response was recorded.

Then 0.2ml of Anti-Histamine and 0.2ml of Histamine was added and the drum was allowed to run for 30 seconds. There is no elevation in the

graph and it seems to be baseline. Then 0.2ml of Histamine was added to standardise the tissue. Then the tracing was labelled and fixed.

Inference

From the graph it is inferred that the test drug antagonise the effect of Histamine when added together. So the drug has got **significant Anti-Histamine activity**.

CLINICAL ASSESSMENT

A clinical trial was done on 30 cases of different age and of both sexes. They were clinically diagnosed as Eraippu Erumal, according to the Siddha literatures. Among them 20 patients were treated in the out – patient department and 10 patients were treated in the In-patient department.

Patients were thoroughly examined, enquired and all the clinical features, complete history, hygienic conditions, surroundings, occupation were noted. personal habits, previous illness, dietary details and allergy to specific things, if any were recorded.

They were of different severity of signs and symptoms like difficulty in breathing, cough with expectoration, wheezing, sneezing, tightness of chest and sometimes having other upper respiratory tract diseases. The duration of illness was also variable.

The routine blood and urine investigations were done in each case. Mantoux, sputum for AFB, and radiological investigations were carried out to rule out other causes and diseases.

The cases were screened as per the following criterias and selected from the outpatient and In- patient departments of the Government siddha medical college hospital, Palayamkottai.

During the course of clinical study, other ailments, if any occurred were treated with conventional siddha medicines.

Including criteria in the case of Eraippu Erumal

1. Cough – Nocturnal cough, paroxysm of cough.
2. Difficulty in breathing
3. Expectoration
4. Sputum colour and quantity – without gross abnormalities such as blood stained sputum, abnormally large quantities of sputum etc.,
5. History of Allergy
6. Sneezing
7. Allergic rhinitis
8. Differential count, especially Eosinophilia
9. Respiratory system examination – added sounds – Rhonchi
10. Radiological investigation – Normal study, Bronchitis, chronic bronchitis.

Excluding criteria in the case of Eraippu Erumal

1. Facial puffiness
2. Abdominal distension
3. Pedal oedema
4. Hepatomegaly
5. Haemoptysis

6. Haematemesis
7. Orthopnoea
8. Cyanosis
9. Evening rise of temperature
10. Sputum for AFB – positive
11. Mantoux – positive
12. clubbing
13. Albuminuria
14. Increased blood urea and serum creatinine
15. Status Asthmaticus.
16. High fever.

Line of treatment

The drug sadamanil ver chooranam was administered internally in a dose of 1gm three times a day with hot water after food to each patient. The duration of treatment varied from patient to patient

Diet and medical advice for Eraippu Erumal

1. Intake of hot water and hot foods were advised.
2. Advised to avoid chill water.
3. Advised to avoid factors which cause digestive disturbances.
4. Advised to avoid allergic factors.
5. Advised to avoid smoking and snuff.

6. Advised to take bath strictly in hot water.
7. Advised to take dinner before 8 p.m.
8. Advised to avoid stress.

Observation

The results were assessed on the basis of symptomatic relief obtained by the patient and clinically by daily examination in the In – patient department and subsequent visits in out-patient department.

Out of 30 cases 17 were males and the remaining cases were female patients, 9 patients had evidence of this particular disease in their family, 21 cases had history of allergy.

Almost all the patients were Labourers and farmers of poor socio economic status. Among the male patients most of them were chronic smokers.

The clinical improvements were recorded for every 5 days for the Out - patients . The clinical investigations were done for the patient before and after the treatment and the prognosis was noted.

No adverse effects were encountered during the study and there were no known contra –indications.

Result:

Among 30 cases 24 cases 80% showed good response, 6 cases 16.5% showed fair response and 1 case (3.5%) showed poor response.

TABLE ILLUSTRATING THE IMPROVEMENT AND THEIR PERCENTAGES

Sl.No	Result	No.of. Patients	Percentage
1	Good	23	80%
2	Fair	6	16.5%
3	Poor	1	3.5%
4	Total	30	100

DISCUSSION

Humeral pathology ascribes Eraippu Eximal to the morbid condition of the kapha humour.

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Thus the affected Kapha humour manifests as clinical symptoms like difficulty in breathing, cough with expectoration, wheezing, sneezing, chest tightness etc.,

The drug Sadamanjil Ver Chooranam selected for this study possesses bitter taste (kaippu) and hot property (veppa veeriyam). It also has expectorant and anti-spasmodic actions. Kaippu has the tendency to mitigate the harmful effects of the vitiated Kapha humour.

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All these factors seem to neutralise the vitiated kapha humour. This explanation is arrived on the basis of the analysis of the Gunapadam aspect of the drug which correlates with that of the pharmacological analysis and the clinical assessment.

Bio chemical analysis shows the presence of starch, amino acid and unsaturated compound. Their presence augments the therapeutic value of this drug by providing indispensable nutrition.

Pharmacological analysis shows that this drug has got significant Anti spasmodic and Anti – histaminic activity.

In the clinical assessment of the 30 cases selected, 80% cases showed good response, 16.5% cases showed fair response, 3.5% cases showed poor response.

The improvement was proved by the alleviation of the signs and symptoms present before the treatment. During the clinical trail, the patients showed no adverse reactions and had no contra indications.

SUMMARY

The drug sadamanjil ver chooranam has been taken to establish the efficacy in treating Eraippu Erumal. The dose of sadamanjil ver chooranam is 1 gram thrice daily with hot water after food.

A brief description pertaining to its botanical aspect, phyto chemical constituents and Gunapadam aspect has been done.

A review of literatures about the drug and its significance in medicine since ancient period has been done.

Collected information from various literatures has been referred.

Bio chemical analysis shows the presence of starch, Amino acids & unsaturated compounds.

Pharmacological analysis shows that the drug has got significant anti- spasmodic activity and anti – histamine activity.

From the clinical assessment, it is inferred that sadamanjil ver chooranam posses remarkable efficacy in treating Eraippu Erunal and the drug has no contra- indications and has no adverse reactions.

CONCLUSION

It is concluded that the drug sadamanjil ver chooranam is an effective drug in relieving the severity of the symptoms in Eraippu Erumal and it has no adverse reactions.

INTRODUCTION

The siddha system of medicine constitutes one of the ancient Medical Practices. Siddhars have classified the source of materials for drugs as vegetable i.e. plant section, metal and mineral section and Animal section.

The drug Amaiodu (Turtle shell) is used for medicinal purposes in siddha system from the period of Bohar. Much references can be seen in his manuscripts especially in Bohar.

Amaiodu is used for perunkazhichal, seethakazhichal (dysentery), Girhani (sprue), Moolam(piles), manthram (Infants diarrhoea)

In this dissertation study, the author has taken **Amaiodu Purpum** for the treatment of **Eraippu Erumal**.

AIM AND OBJECTIVE

The main aim and objective of this dissertation work is to do a scientific review of Amaiodu parpam and its efficacy in treating Eraippu Erumal.

Eraippu erumal is one of the common respiratory disorders affecting millions of people all over the world. Amaiodu parpam has been suggested as an effective drug for Eraippu Erumal in **ANUBOGA VAIDYA NAVANEETHAM PART III (PAGE NO:115)**. This study is aimed at the specific target of exploring the medicinal aspects of the Amaiodu parpam. So far no scientific analysis has been done in this regard. The modern science is growing every day by leaps and bounds. It is imperative to use this knowledge to bring out the efficacy of this drug.

The author has in depth dealt with

1. Zoological aspect
2. Gunapadam aspect
3. Bio-chemical analysis
4. Pharmacological analysis
5. Clinical assessment of Amaiodu parpam in this dissertation study.

REVIEW OF LITERATURES

ZOOLOGICAL ASPECT

ஆமை (TURTLE)

Zoological Name	:	Chelonia Turtle
Tamil name	:	ஆமை
English name	:	Turtle
Hindi	:	Kachakru
Gujarathi	:	Kachoo
Malayalam	:	Lisk, Kurakura, Kulifpaun.

- Indian Materia Medica A.K. Nadkarni Vol III Print 1993

Scientific Classification

Kingdom	:	Animalia
Phylum	:	Chordata
Class	:	Sauropsida
Order	:	Testudines Linnaeus, 1758
Suborders	:	Cryptodira pleurodira
Family	:	Chelonidae

- Outlines of zoology

J.Arthur thomson M.A., L.L.B P.No : 686- 690

8th Edition October 1929

TURTLE

Zoological Aspect

Introduction

Turtles are found throughout the world on all continents and in all oceans except Antarctica. There are 247 species of turtles far lower than Snakes and Lizards, which belong to 75 genera in 13 families.

Turtles appeared in the fossil record over 200 million years ago, and were on earth long before mammals and other forms of present day reptiles. They occur in terrestrial, freshwater aquatic, semi aquatic and marine environments. They range in size from 11cm to 185cm and one species can weigh close to a ton, making (The leather back sea turtle) it the world's largest reptile.

Turtles are reptiles of the order Testudines (all living turtles belong to the crown group chelonia), most of whose body is shielded by a special bony or cartillagenous shell developed from their ribs.

The order Testudines includes both extant and extinct species, the earliest turtles being known from the early Triassic period, making turtles one of the oldest reptile groups, and a much more ancient group than the lizards and Snacks. About 300 species are alive today.

Classification of Chelonia:

1. Athecae

Vertebra and ribs free from carapace. Skull without descending processes from parietals.

Sphargidae, Leathery – skinned Turtles, with flexible carapace. *Spargis coriacea*, the only living species, the largest modern Chelonian, sometimes measuring 6ft in length. It is a widely, but now sparsely distributed in intertropical seas, and is said to be herbivorous.

2. Thecophora

Dorsal vertebrae and ribs fused in the carapace. Parietals prolonged downwards, including the following and other families.

Chelonidae, marine turtles, with fin like feet, and partially ossified carapace. They occur in intertropical seas and bury their soft- shelled eggs on sandy shores. The green turtle is much esteemed as food; the hawk's bill turtle furnishes much of the commercial tortoise shell.

Testudinae, land tortoises, with convex perfectly ossified carapace, and feet adapted for walking. They are found in the warmer regions of both the old and the new world, but not in Australia. In diet they are vegetarian. The common tortoise and the nearly estimated giant tortoises of the mascarene and Galapogas islands are good representatives. The latte may reach the age of the 150 years.

- Outlines of Zoology

J. Arthur Thomson M.A, L.L.D P. No. 686 690.
8th Edition October 1929

Physical Description

Turtles vary widely in size, although marine turtles tend to be relatively big animals. The largest chelonian is a marine turtle, the great leather back sea turtle, which can reach a shell length of 200cm and can reach a weight of over 900kg.

Fresh water turtles are smaller, with the largest species being the Asian soft shell turtle, *Pelochelys Cantorii* which has been reported to measure upto 200cm or 80inch (Das 1991). This dwarfs even the better known alligator snapping turtle, the largest chelonian in North America, which attains a shell length of upto 80cm and a weight of about 76kg.

Giant tortoises of the genera *Geochelone*, *Meiolania* and others were relatively widely distributed around the world into prehistoric times and are known to have existed in North and South America, Australia and Africa.

They became extinct at the same time as the appearance of Man, and it is assumed that humans hunted them for food. The only surviving giant tortoises are on the Seychelles and Galapagos Islands and can grow to over 130cm in length, and weight about 300kg.

The largest ever chelonian was *Archelon ischyros*, a late Cretaceous sea turtle known to have been upto 4.6m long.

The smallest turtle is the speckled padloper tortoise of South Africa. It measures no more than 8cm in length and weighs about 140gm. Two other species of small turtles are the American mud turtles and musk

turtles that live in an area that ranges from Canada to South America. The shell length of many species in this group is less than 13cm in length.

Neck Folding:

Turtles are broken down into two groups according to how they evolved a solution to the problem of withdrawing their neck into their shell

1. The Cryptodira which can draw their neck in while folding it under their spine.
2. The Pleurodira – which fold their neck to the side.

Head:

Most turtles and tortoises have eyes placed on the upper sides of their heads. Species of turtles that spend most of their life on land have their eyes looking down at objects in front of them.

Some aquatic turtles, such as snapping turtles and soft shelled turtles, have eyes closer to the top of the head. These species of turtles can hide from predators in shallow water where they lie entirely submerged except for their eyes and nostrils. Sea turtles possess glands near their eyes that produce salty tears that rid their body of excess salt taken in from the water they drink.

Turtles are thought to have exceptional night vision due to the unusually large amount of rod cells in their retinas. Normal daytime vision is marginal at best due to their colour blindness and poor visual acuity. In addition to daytime vision problems, turtles have very poor pursuit movement abilities, which is most likely due to the fact that pursuit

movement abilities are normally reserved for predators that hunt quick moving pray.

Turtles have a rigid beak. Turtles use their jaws to cut and chew food. Instead of teeth, the upper and lower jaws of the turtle are covered by horny ridges. Carnivorous turtles are covered by horny ridges. Carnivorous turtles usually have knife- sharp for slicing through their prey Herbivorous turtles have serrated edged ridges that help them cut through tough plants. Turtles use their tongues to swallow food, but they can't unlike most reptiles, stick out their tongues to catch food.

Shell

The upper shell of the turtles is called the carapace. The lower shell that encases the belly is called the plastron. The carapace and plastron are joined together on the turtles sides by bony structures called bridges. The inner layer of a turtle's shell is made up of about 60 bones that included portions of the backbone and the ribs, meaning the turtles cannot crawl out of its shell.

In most turtles, the outer layer of the shell is covered by horny scales called scutes that are part of its outer skin or epidermis scutes are made up of a fibrous protein called keratin that also makes up the scales of other reptiles. These Scutes overlap the seams between the shell bones and add strength to the shell. Some turtles do not have horny scutes.

The shape of the shell gives helpful clues to how the turtle lives. Most tortoises have a large dome, shaped shell that makes it difficult for

predators to crush the shell between their jaws. One of the few exceptions is the African pancake tortoise which has a flat, flexible shell that allows it to hide in rock crevices. Most aquatic turtles have flat, streamlined shells which aid in swimming and diving. American snapping turtles and Musk turtles have small, cross – shaped plastrons that give them more efficient leg movement for walking along the bottom of ponds and streams.

Tortoises have rather heavy shells in contrast to aquatic and soft shelled turtles which have lighter shells that help them avoid sinking in water and swim faster with more agility. These lighter shells have larger spaces called fontanelles between the shell bones. The shell of a leather back turtle is extremely light because they lack scutes and contain many fontanelles.

The colour of a turtle's shell may vary shells are commonly coloured brown, black or olive green. In some species shells may have red, orange, yellow or grey marking and these marking are often spots, lines or irregular blotches one of the most colourful turtles is the eastern painted turtle which included a yellow plastron and a black or olive shell with red markings around the rim.

Skin and Moulting

The outer layer of the shell is part of the skin, each scute (or plate) on the shell corresponding to a single modified scale. The remainder of the skin is composed of skin with much smaller scales, similar to the skin of other reptiles.

Turtles and terrapins do not moult their skins all in one go, as snakes do, but continuously, in small pieces. When kept in aquaria, small sheets of dead skin can be seen in the water (often appearing to be thin piece of plastic) when it has been sloughed off, often when the animal deliberately runs itself against a piece of wood or stone. Tortoises also shed skin, but a lot of dead skin is allowed to accumulate into thick knobs and plates that provide protections to parts of the body outside the shell.

This scutes on the shell are never moulted and as they accumulate over time, the shell becomes thicker. By counting the rings formed by a stack of smaller, older scutes on top of the larger, newer ones, it is possible to estimate the age of a turtles, if you know how many scutes are produced in a year.

Limbs

Terrestrial tortoises have short, sturdy feet. Tortoises are famous for moving slowly, in part because of their heavy shell but also because of their relatively inefficient sprawling gait that they have, with the legs being bent, as with lizards rather than being straight and directly under the body as is the case with mammals.

The amphibious turtles normally have limbs similar to those of tortoises except that the feet are webbed and often have long claws. These turtles swim using all four feet. Large turtles tend to swim less than smaller ones, and the very big species, such as alligator snapping turtles, hardly swim at all, preferring to simply walk the bottom of the river or lake. Male

turtles tend to have particularly long claws, and these appear to be used to stimulate the female while matting.

Sea turtles are almost entirely aquatic and instead of feet they have flippers. Compared with fresh water turtles, sea turtles have very limited mobility on land, and apart from the dash from the nest to the sea as hatchlings, male sea turtles normally never leave the sea. Females must come back onto land to lay eggs. The back flippers are used to dig the burrow and then fill it back with sand once the eggs have been deposited.

Anatomy

Parts of shell

There are two parts to the shell of a turtle; the upper portion is called the carapace and the bottom half is called the plastron. Both shells are actually made of many fused bones. The carapace is the fusion of about 50 bones the ribs and vertebrae. The plastron is the fusion of bones including the clavicles (or collar bones), bones between the clavicles and portions of the ribs. A bony bridge joins the carapace and the plastron along the side of the turtle. Some turtles have a movable joint usually in the plastron, which acts as a “hinge” and allows the turtle to pull the carapace and plastron together tightly, while the turtle retracts its body into the shell. Shells have a blood and nerve supply, so bleeding and pain can result if the shell is injured.

Scutes

The shells are covered with a layer of keratin (same type of material that makes up our fingernails or horse's hooves). The keratin is arranged in patches called scutes or shields. The carapace usually has 38 scutes, and the plastron, twelve to fourteen. The names and numbers of the scutes roughly correspond to the adjacent bones and body portions. The scutes, however, do not precisely overlap the bones. Instead, they are staggered which helps give the shell more rigidity. Some aquatic turtles such as soft – shelled sea turtles may have fewer bones in their carapaces and the scutes are replaced by leathery skin.

Scute patterns

Different species of turtles have scutes of different patterns and designs, and there are often individual differences among members of the same species.

Shell shape

The shell shapes of turtles differ with each species, and are often related to habitat. Most aquatic turtles are generally flatter, allowing them to move faster through the water. Tortoises, on the other hand, have carapaces that are dome – shaped.

Shell growth

As a shell grows, the number of scutes generally does not change, but their size does. In some turtles, old scutes are shed and replaced by larger, new ones. In other species, including box turtles, tortoises, and

wood turtles, scutes enlarge in diameter as new keratin is laid down. The growth rings in scutes have been used by some experts to help determine the age of a turtle. Age estimation based on growth layers, however, can be erroneous for several reasons:

- ❖ Some turtles produce multiple growth zones per year.
- ❖ Growth is determined by changes in the environment (season) so age determination by examination of growth rings would be more accurate in wild turtles, than those kept in environments which do not change significantly.
- ❖ Growth layers may wear with age, so older turtles may be estimated to be younger than they really are.

Anatomy and Physiology

The following facts apply to most species of turtles kept in captivity.

- ❖ Both the pelvic and pectoral girdles are contained entirely within the rib cage which is fused to the protective shell. The shell is a vascular bony structure which should be included when calculating drug dosages from the animal's weight.
- ❖ Sexual dimorphism exists in many species. Male tortoises have a concave plastron and male aquatic turtles usually have very long toe nails on their front feet. The tail is relatively larger in males than in females but this does not always hold true.
- ❖ Turtles lack teeth but most possess a sharp beak called a tomium.

- ❖ Turtles can live a long time and tortoises generally live longer than aquatic species. The documented record is 152 years by a Seychelles island tortoise. Some species can be aged by growth rings on the scutes. This does not hold true for many aquatic species which periodically shed their scutes.
- ❖ Turtles lack a diaphragm and since they are housed in a shell most have little or no abdominal breathing component. Most pressure changes allowing for lung expansion are accomplished by muscles in the pockets surrounding the fore and hind limbs. Aquatic species can also respire through their skin and the mucus membranes of the throat and cloaca.
- ❖ Turtles have paired kidneys and a cloacal opening for the urogenital and gastrointestinal tracts.
- ❖ Like most other reptiles, the heart has three chambers.
- ❖ All turtles lay eggs and most bury them in the earth. Some species may lay several clutches per year and females of certain species can store sperm for several years.
- ❖ The gastrointestinal tract is standard in that it includes a simple S-shaped stomach, liver, gall bladder, pancreas, spleen, small and large intestine.
- ❖ Sea turtles possess special salt glands in their head behind each eye which allow them to drink seawater.

www.wikipedia.org

Chemical Constituents:

- ❖ Calcium compounds make up about half of the tortoise plastron and turtle carapace.
 - ❖ Collagen, a fibrous protein makes up about 7% of the tortoise plastron,
 - ❖ There are also small amounts of fats, magnesium, trace minerals, such as zinc and vitamins, including vitamin D in the tortoise shells.
- As with other natural calcium sources, there are small amounts of lead but not enough to be of concern.

Medicinal uses of Turtle shell (in China)

The calcium content of the plastron, when used in the dosages recommended by the Chinese texts, contributes a significant amount several hundreds mgs- compared to the currently recommended nutrition levels of about 1gm of calcium.

According to the report in pao zhi, the raw tortoise shell is mainly used for treating vertigo, tinnitus, deafness, headache and convulsions, whereas processed i.e. vinegar treated tortoise shell is appropriate for treating Night sweating, weakness of back and legs, Insomnia, Heart palpitations and other disorders due to deficiency of liver and kidney.

Tortoise shell gelatin is especially used for treating Impotence, Low back pain, and Uterine bleeding. Turtle shell gelatin is made as a medicinal product and is also used to treat uterine bleeding; it is also used for

hemoptysis associated with Tuberculosis, but is not indicated for the kidney deficiency symptoms of back pain and impotence.

Tortoise shell is also essential in the treatment of late stage Rheumatois arthritis. It is possible that gelatin polypeptides (fragments with partial digestion) contribute to inhibition of bleeding. So useful in treatment of uterine bleeding associated with uterine fibroids.

The bone disease – rickets, which is due to impaired deposition of bone calcium in children, has been treated in china with shell formulas,

Recently interest has developed in the ability of ingested collagen to inhibit Arthritis, and for its ability to inhibit angiogenesis as a means of inhibiting tumor growth.

In Parkinson's disease

The treatment of difficult and recalcitrant diseases with Chinese herbs, formulas for treating parkinson's disease, frequently include tortoise shells and othe gelatins.

In Aplastic Anaemia

Gelatins from tortoise, turtle, antler or donkey skin are prescribed in some formulas for the treatment of Aplastic Anaemia.

Another example is the use of Buxue Tang (blood nourishing decoction) plus Buxue san (blood nourishing powder) used in a study of treatment for Aplastic Anaemia. The decoction includes Turtle and Tortoise shell.

In thrombocytopenia

The treatment of difficult and recalcitrant diseases with Chinese herbs, formulas listed for treating this disorder i.e. Thrombocytopenia include ciyhus Cangxue fang, which is comprised of Tortoise shell, oyster shell, and herbs to clear heat (Phellodendron, Lycium, Gardenia), stop bleeding and tonify deficiency(Lycium, Eucommia)

- From www.wikipedia.org

Vaccine from Tortoise

This is a cure recommended for consumption. The report of the commission appointed in Germany to examine the efficacy of Dr. Friedman's vaccine for treatment of Tuberculosis says; "The vaccine is valuable in the antituberculosis struggle as having given surprising results after 1 or 2 injections". The vaccine is composed of the pure cultures of the tubercle bacilli of the tortoise.

Indian Materia Medica – A.K.Nadkarni

Vol III P; no : 154, Print 1993

REVIEW OF LITERATURES

GUNAPADAM ASPECT

ஆமை ஒரு சீவப்பொருள். இது “உபரசம்” எனப்படும் தாதுப்பொருளின் பிரிவின் கீழ் வருகிறது. தாதுப்பொருள் 4 பிரிவுகளை உடையது.

1. உலோகம் - 11
2. காரசாரம் - 25
3. பாடாணம் - 64
4. உபரசம் - 120.

ஆக மொத்தம் தாதுப்பொருள்கள் 220 ஆகும் இப்பிரிவில் “உபரசம்” என்ற பிரிவில் ஆமை வருகிறது. இங்கு உபரசம் என்ற சொல்லால் வழங்கப்படும் இரசம் என்ற சரக்கு சிவம் தனித்தும், பல்லுயிர்களில் கலந்தும் இருப்பது போன்று தனித்தும், ஒவ்வாரு சரக்கிலும் அதனதன் தன்மைக்கேற்ப “சரக்கிற் கலந்திடு சீவன்” எனக் கலந்தும் இருப்பதாகக் கூறப்படுகிறது.

ஆகையால் இரசம் என்ற சொல் சிவமென வழங்கப் படுவதாலின், அச்சிவம் கலவா உயிர் இல்லாதது போல இரசம் கலவா சரக்கு இல்லை. 120 உபரசச் சரக்குகளில் இரசமானது காணமுடியாத குறைந்த அளவில் காணப்படுவதால் “உபரசம்” என்றாயிற்று.

உபரசத்தின் வகைகளாவன

“ கண்டுகொள் ளுபரசத்தின் வகையைச் சொல்வேன்

உண்டுநா கரவண்டு கருவண்டாமை

-----.

- போகர் காரசாரத்துறை.

ஆமை

CHELONIA TURTLE, TORTOISE

ஆமை மேல் ஓடு பொருந்தியுள்ள ஓர்வகை நீர்வாழ் பிராணி. நீர் வற்றிய காலத்து இது மணலில் புதைந்து கிடக்கும்.

- T.V.சாம்பசிவம் பிள்ளை மருத்துவ அகராதி முதற்பகுதி ப.எ: 367.

வேறு பெயர்கள்:

- ❖ கூர்மம்
- ❖ கூனன்
- ❖ கமடம்
- ❖ கமடாதரி
- ❖ கச்சபம்.

- குணபாடம் தாதுசீவ வகுப்பு ப.எ : 434.

நான்காம் பதிப்பு 1992

- ❖ கூன்னன்
- ❖ கச்சவம்.

- தமிழக சித்த வைத்திய குருகுலம் "ராஜயோகி"

A.P.செல்வராஜன் R.I.M.P, R.H.M.P ப.எ.102.

இரண்டாம் பதிப்பு ஆகஸ்ட் 2001

“ஆமையுடைய பெயர்தனையே அறையக்கேளு
அந்தரங்கத்தி யானியாம் நீர்ப் பரிசையாகும்
ஊமையாந் தனித்தாம் மோதரன் தான்
உந்தங்க மூடியே மவுனியாகும்
பாமையாம் பஞ்சாங்கக் கூர்மையுடன் உள்ளோன்
பாரமாங் கச்சனாங் கூர்மராசன்
வாமையால் ரசப்பிர திட்டை யுள்ளோன்
வகுத்த தெல்லாம் ஆமையுட பேருமாமே”.

- போக முனிவர் நிகண்டு - 1200
பதிப்பாசிரியர் : எஸ்.பி.இராமச்சந்திரன்
ப.எ : 17.
பதிப்பு மே 1992

- * அந்தரங்கத்தியானி
- * நீர்ப்பரிசை
- * தனித்தது
- * மோதிரன்
- * அங்கமூடி
- * மௌனி
- * பஞ்சங்கம் கூர்மையுள்ளோன்
- * கச்சன்
- * கூர்மராசன்
- * மால் பிரதிஷ்டையுள்ளோன்.

வகைகள்:

- | | | | | |
|--------------|---|----------------|---|----------------|
| 1. நிலத்தாமை | - | Land Tortoise | - | Testudinidae |
| 2. நீராமை | - | Water Tortoise | - | Emididae |
| 3. கடலாமை | - | Sea Tortoise | - | Trionycidae |
| | | Marine turtle | | |
| 4. பறையாமை | - | Black Tortoise | - | Batagurellitti |

- T.V.சாம்பசிவம்பிள்ளை

மருத்துவ அகராதி - முதல் பாகம்

ப.எ: 367.

ஆ. 1. நீர் ஆமை

2. நில ஆமை

என இருவகைப்படும்.

முதலில் கூறப்பட்ட நீர் ஆமையே மருத்தவத்திற்கு பயன்படுகிறது. இது அதிகமாக தென்னிந்தியக் கடற்கரையிலும், மன்னார் குடாவிலும் கிடைக்கிறது. நில ஆமை கருமை நிறம் உடையது.

கடலாமை திருஷ்டியினால் குஞ்சு பொரிக்கும் (திரீட்சணம்) ஜீவப் பொருள்களில் ஒன்றாகக் கருதப்படுகிறது.

இதனை,

“கடலிலே திரியுமாமை கரையேறி முட்டை யி ட் டுக்

கடலிலே திரிந்தபோத குஞ்சான வாறு பொல”.

என்று சிவவாக்கியார் பாடலால் உணரலாம்.

- குணபாடம் தாதுசீவ வகுப்பு ப.எ. 434

நான்காம் பதிப்பு 1992

பயன்படும் உறுப்பு

ஓடு	தோல்
கறி	முட்டை
கொழுப்பு	பித்தநீர்

ஆமை ஓடு

பொதுகுணம்

“வல்லை கவுசையுடன் மாந்த சரம் பேதி
தொல்லையுறும் மூலந் தொலைந்துபோம் - எல்லையிலாத்
தீமைதரு முட்கூடுந் தீவிரமா யோடிவரும்
ஆமை முது கோட்டா லறி.”

குணம் : (இ - ள்)

ஆமையோட்டினால் வல்லை, கவுசை என்னும் கட்டிகள், பாலருக்கு
காணகின்ற மாந்தம் , சரம் , பேதி , மூலரோகம், தேகவெப்பம் முதலியவைகள்
தீரும் என்க.

செய்கை

உதரவாதஹரகாரி	தாதுவர்த்தினி
கபஹரகாரி	பசித்தூண்டி
சுரஹரகாரி	

- சித்த வைத்திய பதார்த்த குணவிளக்கம்

தாது-சீவ வர்க்கம்

ப.எண் : 193. பதிப்பு 1997

ஆமையோட்டு சுத்தி

பூநீறு, கற்சண்ணாம்பு சமனெடை சேர்ந்து அதற்கு எண்மடங்கு நீர் விட்டுக் கலக்கி தெளிவெடுத்து , அதில் ஆமை ஓட்டைச் சிறு சிறு துண்டுகளாய் நறுக்கி இட்டு எண்ணெய்க் கசிவு நீங்கும் வரை எரித்தெடுத்து, சுத்த நீரில் கழுவி எடுக்கச் சுத்தியாகும்.

உபயோகிக்கும் முறைகள்

ஆமை ஓடு , சிறப்பாக குழந்தைகள் நோய்க்குப் போடும் குடிநீராகவும் , கருக்காகவும் , பற்பமாகவும் , மாத்திரையாகவும் கையாளப்படுகின்றது.

ஆமையோட்டுக் கருக்குக் குடிநீர்

“கூனன் முதுகு வசம்புள்ளிக் கூறும் ஓம நுணாவேலி
மானே பொடுதலை வாரடையும் வளரும் வெற்றிலை-யின் காம்பும்
கானே கிராம்பு கருக்கியிட்டுக் காய்ச்சிச் சவலைப் பிள்ளைக்குக்
தானே கொடுக்கப் போர் மாந்தம் தங்கா தோடிப்போய்விடுமே”.

(பொ- ள்) ஆமை ஓட்டைச் சுட்டதூள், சுட்ட வசம்பு, வெள்ளுள்ளி, ஓமம், நுணா இலை , வேலிப்பருத்தி, பொடுதலையிலை, வெற்றிலைக் காம்பு, கிராம்பு இவைகள் வகைக்கு வராகனெடை ஒன்று (4.2கிராம்) எடுத்துச் சட்டியிலிட்டுக் கருக்கி விதிப்படி குடிநீர் செய்து, காலை , மாலை இரு வேளையும் 3 - 5 நாள் கொடுக்கப் “போர் மாந்தம்” முதலிய மாந்த நோய்கள் நீங்கும்.

2. ஆமையோட்டுக் கருக்கு

520மிகி வரை, தேனிலாவது , தாய்ப்பாலிலாவது கொடுக்க, மாந்தம், கணம், அஜீரணபேதி, மந்தவாந்தி, கணமாந்தம் தீரும்.

3. ஆமையோட்டு பற்பம்

65மிகி - 130மிகி வரை தாய்ப்பால், பசும்பாலில் தர, குழந்தைகளின் மாந்தம், கண மாந்த பேதி தீரும்.

4. ஆமையோட்டு மாத்திரை

உளுந்தளவு மாத்திரை - 65மி.கி முலைப்பால், பால், வெந்நீர், மாந்தக் குடிநீரில் கொடுக்க, உப்புமாந்தம், கணமாந்த சுரம், பசியின்மை, அசீரணபேதி முதலியன தீரும்.

- குணபாடம் தாதுசீவ வகுப்பு (ப.எ: 435 - 436)

நான்காம் பதிப்பு 1992

5. ஆமையோட்டு சத்து

ஆமை ஒட்டினின்று தயாரித்து சாலவித்தையில் உபயோகிக்கும் ஓர் பொடி மருந்து.

- T.V.சாம்பசிவம்பிள்ளை

மருத்துவ அகராதி முதல் பாகம்

ப.எண்: 367

ஆமைஓடு சேரும் பிறமருந்துகள்

1. உத்தாமணி மாத்திரை

குழந்தைகளுக்கு வேளைக்கு 1 மாத்திரை (கடலைபிரமாணம்) வீதம் தினம் இருவேளை தேன் (அ) முலைப்பாலில் கொடுத்துவர, பேதி, வாந்தி, அசீரணம், நெஞ்சுக்கபம் தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் ப.எ. 148.

2. குழந்தைகளுக்கு மாந்தக் கியாமும்

குழந்தைகளுக்கு வேளைக்கு 1-2 தேக்கரண்டி தினம் 3 முதல் 4 வேளை கொடுத்துவர, சுரம், கபத்தினுபரி தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம் ப.எ.86.

3. மஹாபூபதி பற்பம்

1-2 குன்றிஎடை (130 - 260 மிகி) நெய், வெண்ணெய் இவற்றில் தினம் இரவேளை உண்ண மார்புநோய், ஈளை, ஷயம் தீரும்.

- சிகிச்சாரத்ன தீபம் என்னும் வைத்திய நூல் ப.எ. 227.

பதிப்பு 1991

4. ஆமையோட்டு பற்பம்

$\frac{1}{2}$ - 1 குன்றி வரை (65 - 130மிகி) நெய்யில் தர மார்பு நோய் , அசீரணம் தீரும்.

- சிகிச்சாரத்ன தீபம் என்னும் வைத்திய நூல் ப.எ. 216

பதிப்பு 1991

5. மாந்த மாத்திரை

பயறு (அ) உளுந்தளவு மாத்திரையை தேன் , இஞ்சி சுரசம் (அ) மாந்த கியாழத்தில் தினம் ஒரு வேளை ஒரு நாள் விட்டு ஒரு நாள் மூன்று முறை கொடுக்க, சுரம் , மாந்தம் சலதோஷம் தீரும்.

- கண்ணுசாமி பரம்பரை வைத்தியம்ப.எ.130.

6. மாந்த மாத்திரை

பயறளவு மாத்திரையை தாய்ப்பாலில் காலையில் ஒரு வேளை கொடுக்க பேதியாகும் . இதனால் சுரம், சீதளம் , வலி , மாந்தம் தீரும்.

- சித்த வைத்திய பதார்த்த குண விளக்கம்
(தாது - சீவ வர்க்கம்) ப.எண்: 194.

பதிப்பு 1998

7 . சண்டமாருத குழம்பு

50 - 100மிலி ஒருவேளை 5 நாட்களுக்கு கொடுத்து 5 நாள் இடைவெளி விட்டு நோய் தீரும் வரை கொடுக்க , மேகம், வாதம், சர்மநோய் தீரும்.

- தமிழக சித்த வைத்திய குருகுலம்
“இராஜயோகி” A.P.செல்வராஜன்
R.J.M.P., R.H.M.P ப.எ: 436.

2ம் பதிப்பு ஆகஸ்ட் 2001

ஆமையின் பிற உறுப்புகளின் மருத்துவ பயன்

அ) ஆமைக்கறி

குணம்

“ஆமைக் கறியருசி யையம்பித் துண்டுமூலஞ்
சேமக் கனல்கூதி காமேக - நாமரத்தப்
பேதி கிராணிமலப் பேதியகற் றும்பசியுந்
தாதுமே ருங்கொடுக்குந் தான்”

பொருள்

ஆமைக்கறி , அரோசகம், கபம் , பித்தம், வன்மூலம், உட்கூடு ,
கர்ப்பமேகம்இ , இரத்தாதிசாரம், சீதக் கிரகணி, மலபேதி இவைகளை நீக்கும்.
பசி , வீரியம், அழகு இவற்றை தரும்.

கறியைப் பாகப்படி சமைத்துண்ண மேலே கூறப்பட்ட பிணிகள் நீங்கும்.

ஆமைக்கறியுடன் ,சீந்தில் உப்பு கூட்டிச் சமைத்து அருந்த உடலில்
உண்டாகின்ற காயங்கள் நீங்கும்.

இதனை,

“காயத்தி லேபிறந்த காயத்தைப் போக்கிமிக்க

மாயத்தைப் போலே மயக்குதலா - லோயா

அமுதவல்லி யுப்புடனே யாக்கியமை யான

கமடமெனு மாமையதி கம்”

என்ற தேரன் பொருட்பண்பு நூலில் கூறப்பட்ட வெண்பாவால் உணர்க.

- குணபாடம் தாது சீவ வகுப்பு ப.எ. 437.

நான்காம் பதிப்பு 1992

ஆமைக்கறியில் அரோசகம், கபநோய்கள், பித்த உஷ்ணம், உள்மூலம், உட்சூடு, இரத்ததாதிசாரம் (இரத்தப்போக்கு) , மலபேதி இவைகளை நீக்கி பசி,வீரியம், அழகு இவைகளை உண்டாக்கும்.

- தமிழக சித்த வைத்திய குருகுலம் ப.எ. 102.

இரண்டாம் பதிப்பு ஆகஸ்ட் 2001

ஆமைக்கொழுப்பு

1. செய்கை

- ❖ உடற்றேற்றி
- ❖ காமம் பெருக்கி
- ❖ தாது வெப்பகற்றி.

இதனை உருக்கி நெய்யாக்கி, ஒன்று (4மிலி) முதல் இரண்டு (8மிலி) தேக்கரண்டி வரை அருந்திவர , கண்டமாலை, பாண்டு , நுரையீரலைப் பற்றிய பிணிகள் நீங்கும்.

இதனால் இரத்தமூலம் நீங்கும் என்பதை “ ஊணாமை நெய் மூலமாட்டும் ” என்ற அடியால் தெளிக.

ஆமைத்தோல்:

பெண்ணாமைத் தோலினால் பெருஞ்சிரங்கு, குழி விரணங்கள் நீங்கும் எனக் கூறப்பட்டுள்ளது.

இதனை,

“ஆனைச் சிரங்குமுத லான ரண நோயை
யூனிற் படாம லொதுக்குமே - மானப்
பிளிறின் குரல்காட்டும் பெண்ணாமை யான
துனியின் புறவோட்டுத் தோல்”.

என்ற வெண்பாவால் உணரலாம்.

வழக்கிலின்மையின் இதனை உபயோகிக்கும் வகை தெரியவில்லை.

உலர்ந்த தோலைப் பொடித்து நெருப்பிலிட்டுப் புகை பிடிக்க மூலம் நீங்குமென்பர்.

ஆமை முட்டை

முட்டையைப் பொரித்து குழந்தைகளுக்குக் கொடுக்க கக்குவான், வலி முதலிய நோய்களுக்குக் கொடுத்தல் பழக்கம்.

ஆமை - பித்த நீர்

இதனை நசியமிட வலி நீங்குமென்றும்,

கடிவாயில் பூச , விடமிறங்குமென்றும், மேலே பூச , தொண்டை வலி நீங்குமென்றும் கூறப்பட்டுள்ளன.

ஆமை - இரத்தம்

குருதியை அருந்துவதினால் புப்புச சம்பந்தப்பட்ட பிணிகள் நீங்கும். இது தூத்துக்குடியில் வழக்கிலிருப்பதைக் காணலாம்.

- குணபாடம் தாது சீவ வகுப்பு

- நான்காம் பதிப்பு 1992 பக்க எண் 437

MATERIALS AND METHODS

(Amaiodu parpam)

Collection of the drug

Amaiodu was collected from Gopalan Asan raw drug store, Nagercoil after identification.

Purification of the raw drug

Equal amount of pooneeru and karchunnam were taken in a mudpot. They are mixed with water at the ratio of 1:8. Then the cut pieces of Amaiodu were put in that mixture & boiled well till the impurities of the drug are removed. After that the drug (Amaiodu) becomes soft and white. The drug taken out then and washed out in clean water & dried in sunlight.

Preparation of Amaiodu Parpam

Drugs required

Amaiodu (purified) – 87.5gm. (2.5 palam)

Rubbed Adathoda leaves – 700gm. (20 palam)

Method of preparation

Adathoda leaves were rubbed in a kalvam to make a karkam.

Then the purified cut pieces of Amaiodu were buried in the Adathoda leaves karkam. Two mud seelai were made on that karkam. Then it was dried well. After that it was subjected to pudam with 1600gms, Of varatti (8 veesai). Parpam obtained was made into a fine powder by grinding in the kalvam.

Dose:-

250mg two times a day with honey after meals.

Route of administration:-

Enteral.

The prepared Amiodu Parpam was used for the treatment of Eraippu

Erupal was analysed by the following methods.

1. Bio – chemical analysis.
2. Pharmacological analysis
3. Clinical Study.

BIO – CHEMICAL ANALYSIS

BIO – CHEMICAL ANALYSIS OF AMAIODU PARPAM

PREPARATION OF THE EXTRACT

100mgs of parpam is 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 is transferred to 100ml volumetric flask and made up to 100ml with distilled water. Mix well filter it . Then it is taken for analysis.

Qualitative Analysis

S.no	Experiment	Observation	Inference
1.	<u>Test for calcium</u> 2ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxalate solution.	A white precipitate is formed.	Indicates the presence of calcium.
2.	<u>Test for sulphate:</u> 2ml of the extract is added to 5% barium chloride solution.	A white precipitate is formed.	Indicates the presence of sulphate.

3.	<u>Test for chloride</u> The extract is treated with silver nitrate solution.	A white precipitate is formed.	Indicates the presence of chloride.
4.	<u>Test for carbonate</u> The substance is treated with concentrated Hcl.	A brisk effervescence is formed.	Indicates the presence of carbonate.
5.	<u>Test for zinc</u> The extract is added with potassium ferro cyanide.	A white precipitate is formed.	Indicates the presence of zinc.
6.	<u>Test for iron</u> <u>Ferric</u> The extract is treated with concentrated glacial acetic acid and potassium ferro cyanide.	No blue colour is formed.	Absence of ferric iron.
7.	<u>Test of iron :</u> <u>Ferrous:</u> The extract is treated with concentrated Nitric acid and ammonium thio cynate.	Blood red colour is formed.	Indicates trace of ferrous is present.
8.	<u>Test for phosphate</u> The extract is treated with ammonium molybdate and concentrated nitric acid.	Yellow precipitate is formed.	Indicates the presence of phosphate.
9.	<u>Test for albumin</u> The extract is treated with Esbach's reagent.	No yellow precipitate is formed.	Absence of albumin.

10.	<u>Test for Tannic acid</u> The extract is treated with ferric chloride.	No blue black precipitate is formed.	Absence of Tannic acid.
11.	<u>Test for unsaturation</u> Potassium permanganate solution is added to the extract.	It does not get decolourised.	Absence of unsaturated compound.
12.	<u>Test for the reducing sugar</u> 5ml of benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts.	No colour change occurs.	Absence of reducing sugar.
13.	<u>Test for amino acid:</u> One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% ninhydrin is sprayed over the same and dried it well.	No violet colour is formed.	Absence of amino acid.

Inference

The given sample of Amiaiodu Parpam contains calcium, Sulphate, Chloride, Carbonate, Zinc, Phosphate and Trace of ferrous iron.

PHARAMACOLGICAL ANALYSIS

ANTI SPASMODIC EFFECT OF AMAIODU PAMPAM ON ISOLATED RABBIT ILEUM

Aim

To find out the anti – spasmodic effect of Amaiodu pampam on isolated rabbit ileum.

Preparation of the Test drug

100 mg of the Amaiodu pampam was dissolved in 10 ml of water and boiled for 15 minutes. The filtrate was used for the experiments.

Solutions required

Acetylcholine – 1mg/ml. Atropine – 0.5mg/ml

Test drug (Amaiodu pampam) – 10mg/ml.

Nutrient Solutions

Tyrode – 1 to 2 liters.

Tissue used

Rabbit ileum.

Apparatus Required

Student's organ bath, sherrington rotating drum.

Procedure

A Rabbit was starved for 48hours and was allowed water ad – libtum. It was sacrificed by a blow on the head and by carotid bleeding. The abdomen was quickly opened and the ileo - caecal junction was found out. A small piece of ileal portion was cut, removed and placed in a dish

containing warm aerated Tyrode solution. The Lumen of the ileum was gently rinsed out by pushing Tyrode solution into it, 3 cms length segment was cut from this part of ileum and was tied with thread on both ends without closing the lumen and the tissue was mounted in the organ bath containing T grade solution maintained at 37°C bubbled with air by an oxygen tube.

First the drum was allowed to run for 1 minute from the base line. Drugs were given to study the inhibiting effect of Acetyl-choline. 0.2ml (1 mg / ml) of Acetylcholine was added and allowed to run the drum for 30 seconds. Thus the tissue was standardised and then the drum was stopped and the Acetyl – choline was washed out.

Again the Tyrode solution was added to the organ bath till the lever comes to the base line. The drum was allowed to run for 1 minute.

To the organ bath 1 ml of test drug and 0.2 ml (1mg / ml) Acetyl – choline was simultaneously added and the drum was allowed to run for 30 seconds. The response was recorded. Then the drum was stopped and the Acetyl – choline solution and the test drug solutions were washed out. Then the above experiment was done for 0.2ml dose of Acetyl – choline. The drum was allowed to run for 30 seconds. The response was recorded.

Then 0.2ml of Atropine and 0.2ml of Acetyl –Choline was added and the drum was allowed to run for 30 seconds. There is no elevation in the graph. Then 0.2ml of Acetyl –choline was added to standardise the tissue. Then the tracing was labelled and fixed.

Inference

From the graph, it is inferred that the test drug doesn't antagonise the effect of Acetyl-choline when added together. So the drug **does not possess Anti – spasmodic activity.**

ANTI HISTAMINE STUDY OF AMAIODU PAMPAM ON ISOLATED GUINEA PIG ILEUM

Aim

To study the anti – histamine effect of Amaiodu pampam on isolated Guinea pig ileum.

Preparation of the Test drug

100mg of Amaiodu pampam was dissolved in 10ml of water and boiled for 15 minutes. The filtrate was used for the experiments.

Solutions required

Histamine - 1 in 100000 strength,

Anti Histamine (Pheniramine maleate 22.75 mg / ml)

Test drug - (Amaiodu pampam) 10 mg/ ml.

Nutrient Solution

Tyrode - 1 to 2 litres.

Tissue Used

Guinea Pig Ileum.

Apparatus Required

Student's Organ bath.

Sherrinton rotating drum.

Procedure

An overnight fasted Guinea pig weighing about 400 grams was sacrificed by a blow on the head and by carotid bleeding. The abdomen was suddenly opened and ileocacal junction was found out. A small piece of ileal portion was cut and placed in a dish containing warm aerated Tyrode solution. The Lumen of the ileum was gently rinsed out by pushing Tyrode solution into it, 3cms length segment was cut from this part of ileum, and was tied with thread on both ends without closing the lumen and the tissue was mounted in the organ bath containing Tyrode solution maintained at 37°C and bubbled with air by an oxygen tube.

First the drum was allowed to run for 1 minute from the base line. Drugs were given to study the inhibiting effect of Histamine. 0.2 ml (10mg / ml) of Histamine was added and allowed to run the drum for 30 seconds. Thus the tissue was standardised and then the drum was stopped and the Histamine was washed out.

Again the Tyrode solution was added to the organ bath till the lever comes to the base line. The drum was allowed to run for 1 minute.

To the organ bath 1 ml of the test drug and 0.2ml (10 mg / ml) Histamine was simultaneously added and the drum was allowed to run for 30 seconds. The response was recorded. Then the drum was stopped and the histamine solution and test drug solutions washed out. Then the above experiment was done for 0.2ml dose of Histamine. The drum was allowed to run for 30 seconds. The response was recorded.

Then 0.2ml of Anti – histamine and 0.2 ml of histamine was added and the drum was allowed to run for 30 seconds. There is no elevation in the graph. Then 0.2 ml of histamine was added to standardise the tissue. Then the tracing was labelled and fixed.

Inference:

From the graph, it is inferred that the test drug doesn't antagonise the effect of Acetyl choline, when added together. So the drug **doesnot possess Anti – Histaminic action.**

CLINICAL ASSESSMENT

Eraippu Erumal is a common disease and vexes mankind constantly. To assess the therapeutic efficacy of Amaiodu parpam, Eraippu Erumal patients of both sexes were selected and treated in both Inpatient and Out patient department of Gunapadam, Government Siddha Medical College hospital, Palayamkottai.

For all cases full clinical data were recorded and they were dignosed on the basis of Siddha basic pricniples i.e, Envagai thervugal etc. All the patients were undergone for hematological and radiological investigations in the corresponding sections of the hospital.

Clinically patients were selected as 'Eraippu Erumal' having the cardinal symptoms namely,

- ❖ Tightness of chest
- ❖ Dyspnoea
- ❖ Expiratory Wheezing - Rhonchi
- ❖ Cough with or without expectoration
- ❖ H/O previous attacks before etc.

To exclude Pulmonary tuberculosis & other Respiratory infections, patients with the following symptoms are omitted from the study.

- ❖ Evening rise of Temperature
- ❖ Haemoptysis
- ❖ Expectoration of large quantities of foul yellow coloured sputum.
- ❖ Emaciation of body
- ❖ Acute pyrexial illness with respiratory symptoms.

Respiratory system of patients was thoroughly examined clinically and exact cases of Eraippu Erumal were selected for the study.

Accordingly 30 patients were selected and studied both in I.P and O.P wards.

Of those 20 patients were treated as Out patients and 10 were treated as In-Patients.

Patients who could not stay for enough number of days in I.P ward were requested to come to out patient Department after their discharge from in patient Department and their progress were watched without fail.

Drug and Dosage

The test drug Amaiodu parpam was given to the patients at the dose of 250mg two times a day with honey.

Diet and Medical Advice

- ❖ All patients were advised to avoid food which increases Kapha.
- ❖ They were strictly advised not to take meat, fish, chicken, Lemon, bitter guard, Leaves of agathi, Pumpkin and those vegetables which have cooling effects on body. (e.g: chow – chow, Raphanus)
- ❖ They were also advised not to take curd, butter milk, cold water for drinking.
- ❖ They were advised to avoid exposure to cold air, dust and sleeping in bare floor.
- ❖ The male patients who were having the habit of smoking were strictly advised to abstain from smoking.

**TABLE ILLUSTRATING THE IMPROVEMENT AND THEIR
PERCENTAGES**

Sl.No	Result	No.Of Patients	Percentage
1	Good relief	18	60%
2.	Fair relief	09	30%
3.	Poor relief	03	10%
	Total	30	100

From the above table it can be observed that 60% of patients receiving the drug Amaiodu parpam had good relief, 30% had fair relief, and 10% had poor relief.

DISCUSSION

The basic abnormality in Eraippu Erumal is derangement of Kapha humour.

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Thus the affected Kapha humour reflects the clinical symptoms like cough with expectoration scanty sputum and difficulty in breathing. The above signs and symptoms were partially relieved by administration of the drug Amaiodu parpam. The possible explanation is given below and the drug acts in such a way that.

Amaiodu has Expectorant action.

According to the basic principle of siddha, all these factors tend to the Pharmacological and clinical trails.

Bio-chemical analysis showed that it contains calcium, Sulphate, Chloride, Carbonate, Zinc, Phosphate , Ferrous Iron & Mercury.

They provide valuable nutritional support.

Pharmacological studies show that the Amaiodu parpam has not get significant Anti – Histamine and Anti Spasmodic Activity.

In the clinical assessment, 30 cases were selected, 18 cases showed good response, 9 cases showed fair response and 3 cases showed poor response.

During the course of study no adverse reactions were observed and there were no contra indications.

SUMMARY

Amaiodu parpam was taken for this study to establish its efficacy in Eraippu Erumal, as the important aspect of this dissertation work.

The dose of Amaiodu parpam is 250mgm two times a day with honey.

A review of literatures about the drug and its significance in medicine were collected.

In Bio-chemical analysis the drug has got Calcium, Sulohate, Carbonate, zinc, Ferrous Iron , Phosphate and Mercury.

Pharmacological analysis shows no significant anti-histamine and Anti spasmodic activity.

From the clinical study the drug had a moderate response in Eraippu Erumal.

CONCLUSION

It is concluded that the drug Amaiodu parpam has moderate effect in the treatment of Eraippu Erumal for reducing its severity and difficulties.

1.Name:	Mr.Thangavel servai	Age:	75	Sex:	M	Ward :	MPGII	I.P.No	2359	Occupation:	Working in Rice mill				
Date of Admission	23.10.2006	Date of Discharge	01.11.06			No.of Days Treated	11	Days							
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal								
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration sneezing on exposure to dust , cold etc., and difficulty in breathing since 2 years	BLOOD-					BLOOD-					Good				
	TC -		9200Cells/cu.mm			TC -		9000Cells/cu.mm							
	DC -	P	60%	L	34%	E	06%	DC -	P	60%		L	36%	E	04%
	ESR	½ hr	20mm	1 hr	40mm.		ESR	½ hr	20mm	1 hr		40mm			
Hb-		74%			Hb-		74%								
No significant family history present	Bl.Sugar		83mgs%			Bl.Sugar		83mgs%							
	Bl. Urea		25mgs%			Bl. Urea		25mgs%							
	Serum Cholesterol		299mgs%			Serum Cholesterol		295mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		NAD			Deposits -		NAD							
	CHEST X – RAY			Chronic Bronchitis		CHEST X – RAY			Normal						
	SPUTIM FOR AFB			Negative		SPUTIM FOR AFB									
	MANTOUX			Negative		MANTOUX									
Days	1	3	6	9	12	15									
Cough	P	P	R	R											
Breathlessness	++	+	+	-											
Sputum	Colour	W	W	W	W										
	Quantity	10ml	8ml	5ml	2ml										
Rhonchi	P	P	R	R											

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

2.Name:	Mr.Dhanusulal	Age:	85	Sex:	M	Ward :	MPGII	I.P.No	1983	Occupation:	Farmer							
Date of Admission	28.8.06	Date of Discharge	11.9.06			No.of Days Treated	15	Days										
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal											
Complaints & Duration	Investigations Before Treatment				Investigations After Treatment				Response									
Cough with expectoration difficulty in breathing since 1 year.	BLOOD-				BLOOD-				Fair									
	TC -		9000Cells/cu.mm		TC -		8500Cells/cu.mm											
	DC -	P	60%	L	36%	E	04%	DC -					P	60%	L	36%	E	04%
	ESR	$\frac{1}{2}$ hr	30mm	1 hr	68mm	ESR	$\frac{1}{2}$ hr	15mm					1 hr	30mm				
	Hb-		68%		Hb-		68%											
Family History Significant family history present . His father has similar episode	Bl.Sugar		79mgs%		Bl.Sugar		80mgs%											
	Bl. Urea		32mgs%		Bl. Urea		32mgs%											
	Serum Cholesterol		157mgs%		Serum Cholesterol		157mgs%											
	URINE -				URINE -													
	Albumin-		Nil		Albumin-		Nil											
	Sugar -		Nil		Sugar -		Nil											
	Deposits -		few epithelial cells		Deposits -		NAD											
	CHEST X – RAY		Normal		CHEST X – RAY													
	SPUTIM FOR AFB		Negative		SPUTIM FOR AFB													
	MANTOUX		Negative		MANTOUX													
Days	1	3	6	9	12	15												
Cough	P	P	R	R	R	R												
Breathlessness	++	++	++	+	+	+												
Sputum	Colour	W	W	W	W	W	W											
	Quantity	10ml	10ml	8ml	5ml	2ml	2ml											
Rhonchi	P	P	R	R	R	R												

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

3.Name:	Shanmugathammal	Age:	60	Sex:	F	Ward :	FPGII	I.P.No	2417	Occupation:	Housewife						
Date of Admission	30.10.06		Date of Discharge		14.11.06		No.of Days Treated		16	Days							
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis		Eraippu Erumal									
Complaints & Duration			Investigations Before Treatment				Investigations After Treatment				Response						
Cough with expectoration, difficulty in breathing since 2 years, on exposure to cold air, dust etc.,			BLOOD-				BLOOD-										
			TC -		9000Cells/cu.mm		TC -		9000Cells/cu.mm								
			DC -	P	58%	L	40%	E	02%	DC -		P	55%	L	43%	E	02%
			ESR	$\frac{1}{2}$ hr	10mm	1 hr	22mm		ESR	$\frac{1}{2}$ hr		10mm	1 hr	22mm			
			Hb-		71%		Hb-		70%								
Family History No significant family history present			Bl.Sugar		80mgs%		Bl.Sugar		85mgs%								
			Bl. Urea		20mgs%		Bl. Urea		20mgs%								
			Serum Cholesterol		157mgs%		Serum Cholesterol		157mgs%								
			URINE -				URINE -										
			Albumin-		Nil		Albumin-		Nil								
			Sugar -		Nil		Sugar -		Nil								
			Deposits -		NAD		Deposits -		NAD								
			CHEST X – RAY		Chronic Bronchitis		CHEST X – RAY		Chronic Bronchitis								
			SPUTIM FOR AFB		Negative		SPUTIM FOR AFB										
			MANTOUX		Negative		MANTOUX										
Days	1	3	6	9	12	15											
Cough	P	P	P	R	R	R											
Breathlessness	++	+	+	+	+	-											
Sputum	Colour	W	W	W	W	W	W										
	Quantity	15ml	10ml	5ml	5ml	3ml	2ml										
Rhonchi	P	P	R	R	R	R											

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

4.Name:	Petchiammal	Age:	70	Sex:	F	Ward :	FPGII	I.P.No	2497	Occupation:	Housewife				
Date of Admission	10.11.06	Date of Discharge	28.11.06						No.of Days Treated	19	Days				
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water						Diagnosis	Eraippu Erumal							
Complaints & Duration	Investigations Before Treatment						Investigations After Treatment				Response				
Coughing with expectoration chest tightness, difficulty in breathing since 4 years	BLOOD-						BLOOD-				Good				
	TC -			8600Cells/cu.mm			TC -			8000Cells/cu.mm					
	DC -	P	50%	L	44%	E	06%	DC -	P	50%		L	44%	E	06%
	ESR	½ hr	15mm	1 hr	35mm		ESR	½ hr	10mm	1 hr		20mm			
Hb-		64%				Hb-		64%							
Family History		Bl.Sugar		132mgs%				Bl.Sugar		110mgs%					
significant family history present		Bl. Urea		22mgs%				Bl. Urea		20mgs%					
		Serum Cholesterol		148mgs%				Serum Cholesterol		148mgs%					
		URINE -						URINE -							
		Albumin-		Nil				Albumin-		Nil					
		Sugar -		Nil				Sugar -		Nil					
		Deposits -		1-2puscells mgs% HPF				Deposits -		NAD					
CHEST X – RAY			Normal			CHEST X – RAY									
SPUTIM FOR AFB			Negative			SPUTIM FOR AFB									
MANTOUX			Negative			MANTOUX									
Days	1	3	6	9	12	15	18								
Cough	P	P	P	R	R	R	R								
Breathlessness	+++	+++	++	++	+	+	+								
Sputum	Colour		W	W	W	W	W	W							
	Quantity		20ml	18ml	18ml	10ml	5ml	3ml	2ml						
Rhonchi	P	P	P	P	R	R	R								

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

5.Name:	Mr.Krishnan	Age:	64	Sex:	M	Ward :	MPGII	I.P.No	2538	Occupation:	Farmer				
Date of Admission	15.11.06	Date of Discharge	27.11.06						No.of Days Treated	13	Days				
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water						Diagnosis	Eraippu Erumal							
Complaints & Duration	Investigations Before Treatment						Investigations After Treatment						Response		
Cough with expectoration difficulty in breathing since 6 months, on exposure to cold air, dust etc.,	BLOOD-						BLOOD-						Good		
	TC -			10000Cells/cu.mm			TC -			9000Cells/cu.mm					
	DC -	P	70%	L	28%	E	02%	DC -	P	70%	L	28%		E	02%
	ESR	½ hr	15mm	1 hr	42mm		ESR	½ hr	10mm	1 hr	20mm				
Hb-			71%			Hb-			72%						
Family History			Bl.Sugar			88mgs%			Bl.Sugar			80mgs%			
No significant family history present			Bl. Urea			18mgs%			Bl. Urea			20mgs%			
			Serum Cholesterol			146mgs%			Serum Cholesterol			150mgs%			
			URINE -						URINE -						
			Albumin-			Nil			Albumin-			Nil			
Sugar -			Nil			Sugar -			Nil						
Deposits -			2-3 Pus cells			Deposits -			NAD						
CHEST X – RAY			Chronic bronchitis			CHEST X – RAY			Normal						
SPUTIM FOR AFB			Negative			SPUTIM FOR AFB									
MANTOUX			Negative			MANTOUX									
Days	1	3	6	9	12	15									
Cough	P	P	p	R	R										
Breathlessness	++	++	+	+	+										
Sputum	Colour	W	W	W	W	W									
	Quantity	15ml	10ml	8ml	5ml	2ml									
Rhonchi	P	P	P	R	R										

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

6.Name:	Mr.Ashok	Age:	55	Sex:	M	Ward :	MPGII	I.P.No	2545	Occupation:	Farmer				
Date of Admission	15.11.06	Date of Discharge	27.11.06			No.of Days Treated	13	Days							
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal								
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration, breathlessness, chest tightness since 1 year on exposure to cold air, dust etc	BLOOD-					BLOOD-					Fair				
	TC -		7500Cells/cu.mm			TC -		7500Cells/cu.mm							
	DC -	P	68%	L	28%	E	04%	DC -	P	65%		L	32%	E	03%
	ESR	½ hr	37mm	1 hr	65mm		ESR	½ hr	15mm	1 hr		30mm			
	Hb-		68%			Hb-		68%							
Family History No significant family history present	Bl.Sugar		75mgs%			Bl.Sugar		78mgs%							
	Bl. Urea		24mgs%			Bl. Urea		24mgs%							
	Serum Cholesterol		164mgs%			Serum Cholesterol		164mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		NAD			Deposits -		NAD							
	CHEST X – RAY			Chronic Bronchitis		CHEST X – RAY			Normal						
	SPUTIM FOR AFB			Negative		SPUTIM FOR AFB									
	MANTOUX			Negative		MANTOUX									
Days	1	3	6	9	12	15									
Cough	P	P	P	R	R										
Breathlessness	++	+	+	+	+										
Sputum	Colour	W	W	W	W	W									
	Quantity	10ml	8ml	5ml	2ml	2ml									
Rhonchi	P	P	P	R	R										

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

7.Name:	Mrs.Chitra	Age:	39	Sex:	F	Ward :	FPGII	I.P.No	2553	Occupation:	House wife				
Date of Admission	16.11.06	Date of Discharge	28.11.06	No.of Days Treated				13	Days						
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal								
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration breathlessness since 3 months, on exposure to cold air, dust etc.,	BLOOD-					BLOOD-					Good				
	TC -		9200Cells/cu.mm			TC -		9200Cells/cu.mm							
	DC -	P	60%	L	35%	E	5%	DC -	P	60%		L	35%	E	05%
	ESR	½ hr	14mm	1 hr	30mm		ESR	½ hr	10mm	1 hr		20mm			
	Hb-		70%			Hb-		70%							
Family History No significant family history present	Bl.Sugar		83mgs%			Bl.Sugar		83mgs%							
	Bl. Urea		47mgs%			Bl. Urea		47mgs%							
	Serum Cholesterol		146mgs%			Serum Cholesterol		146mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		few epithelia cells			Deposits -		few epithelial cells HPF							
	CHEST X – RAY			Chronic Bronchitis		CHEST X – RAY			Normal						
	SPUTIM FOR AFB			Negative		SPUTIM FOR AFB									
MANTOUX			Negative		MANTOUX										
Days	1	3	6	9	12	15									
Cough	P	P	R	R	R										
Breathlessness	++	+	+	+	+										
Sputum	Colour	W	W	W	W	W									
	Quantity	10ml	8ml	5ml	2ml	2ml									
Rhonchi	P	P	R	R	R										

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

8.Name:	Mrs. Pitchammal	Age:	65	Sex:	F	Ward :	FPGII	I.P.No	2590	Occupation:	House wife				
Date of Admission	23.10.2006	Date of Discharge	01.11.06			No.of Days Treated	11	Days							
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal								
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration chest tightness, difficulty in breathing since one month	BLOOD-					BLOOD-					Good				
	TC -		9600Cells/cu.mm			TC -		9000Cells/cu.mm							
	DC -	P	62%	L	34%	E	04%	DC -	P	62%		L	34%	E	04%
	ESR	½ hr	45mm	1 hr	72mm	ESR	½ hr	15mm	1 hr	30mm					
Hb-		70%			Hb-		70%								
Family History significant family history present	Bl.Sugar		88mgs%			Bl.Sugar		88mgs%							
	Bl. Urea		27mgs%			Bl. Urea		27mgs%							
	Serum Cholesterol		159mgs%			Serum Cholesterol		159mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		NAD			Deposits -		NAD							
	CHEST X – RAY		Normal			CHEST X – RAY									
SPUTIM FOR AFB		Negative			SPUTIM FOR AFB										
MANTOUX		Negative			MANTOUX										
Days	1	3	6	9	12	15									
Cough	P	P	R	R											
Breathlessness	++	+	+	+											
Sputum	Colour	W	W	W	W										
	Quantity	15ml	10ml	5ml	2ml										
Rhonchi	P	P	R	R											

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

9.Name:	Alagumuthu	Age:	691	Sex:	M	Ward :	MPGII	I.P.No	2593	Occupation:	Coolie				
Date of Admission	23.10.2006		Date of Discharge	01.11.06			No.of Days Treated	11	Days						
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water						Diagnosis	Eraippu Erumal							
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration, chest tightness breathlessness since 4 years on exposure to cold air, dust etc.,	BLOOD-					BLOOD-					Good				
	TC -		10800Cells/cu.mm			TC -		9600Cells/cu.mm							
	DC -	P	72%	L	26%	E	02%	DC -	P	72%		L	26%	E	02%
	ESR	½ hr	15mm	1 hr	32mm		ESR	½ hr	15mm	1 hr		32mm			
Hb-		69%			Hb-		69%								
Family History significant family history present	Bl.Sugar		80*mgs%			Bl.Sugar		82mgs%							
	Bl. Urea		66mgs%			Bl. Urea		42mgs%							
	Serum Cholesterol		169mgs%			Serum Cholesterol		169mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		NAD			Deposits -		NAD							
	CHEST X – RAY		Normal			CHEST X – RAY									
SPUTIM FOR AFB		Negative			SPUTIM FOR AFB										
MANTOUX		Negative			MANTOUX										
Days	1	3	6	9	12	15									
Cough	P	P	R	R											
Breathlessness	++	+	+	+											
Sputum	Colour	W	W	W	W										
	Quantity	10ml	8ml	3ml	2ml										
Rhonchi	P	P	R	R											

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

10.Name:	Muthuvel	Age:	40	Sex:	M	Ward :	MPGII	I.P.No	2422	Occupation:	Farmer				
Date of Admission	31.10.06		Date of Discharge	27.11.06		No.of Days Treated	28	Days							
Drug	Sadamanjil Ver Chooranam 1 gm TDS with hot water					Diagnosis	Eraippu Erumal								
Complaints & Duration	Investigations Before Treatment					Investigations After Treatment					Response				
Cough with expectoration breathlessness since 6 months, on exposure to dust , cold air etc	BLOOD-					BLOOD-					Good				
	TC -		9600Cells/cu.mm			TC -		9000Cells/cu.mm							
	DC -	P	60%	L	36%	E	04%	DC -	P	60%		L	36%	E	04%
	ESR	½ hr	5mm	1 hr	11mm		ESR	½ hr	5mm	1 hr		11mm			
Hb-		72%			Hb-		70%								
Family History No significant family history present	Bl.Sugar		114mgs%			Bl.Sugar		114mgs%							
	Bl. Urea		26mgs%			Bl. Urea		26mgs%							
	Serum Cholesterol		159mgs%			Serum Cholesterol		159mgs%							
	URINE -					URINE -									
	Albumin-		Nil			Albumin-		Nil							
	Sugar -		Nil			Sugar -		Nil							
	Deposits -		NAD			Deposits -		NAD							
	CHEST X – RAY		Normal			CHEST X – RAY									
SPUTIM FOR AFB		Negative			SPUTIM FOR AFB										
MANTOUX		Negative			MANTOUX										
Days	1	3	6	9	12	15	18	21	24	27					
Cough	P	P	R	R	R	R	R	R	R	R					
Breathlessness	+++	+++	++	++	++	++	+	+	+	+					
Sputum	Colour	W	W	W	W	W	W	W	W	W					
	Quantity	20ml	20ml	18ml	15ml	15ml	10ml	5ml	5ml	3ml	2ml				
Rhonchi	P	P	R	R	R	R	R	R	R	R					

P – Present

R – Reduced

W - Whitish

Y- Yellowish

Mild - +

Moderate - ++

Severe - +++

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

1. Name:	Mr.Raman	Age:	60	Sex:	M	O.P.No	38586	No. of Days Treated	35	Days	From	28.06.06			
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Coolie				
Complaints & Duration	Respiratory System Examination				Investigations								Response		
	Before Treatment		After Treatment		Before Treatment				After Treatment						
Cough with expectoration difficulty in breathing since one month	Cough	P	Cough	R	BLOOD-				BLOOD-						
					TC -		9000Cells/cu.mm		TC -		9000Cells/cu.mm				
	DC -		P	52%	L	46%	E	02%	DC	P	52%	L	46%	E	02%
	Sputum	W	Sputum	W	ESR	½ hr	5mm	1 hr	12mm	ESR	½ hr	5mm	1 hr	10mm	
					Hb-		69%		Hb-		69%				
	Bl.Sugar		75mgs%		Bl.Sugar		70mgs%								
	Bl. Urea		23mgs%		Bl. Urea		25mgs%								
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				153mgs%						
					URINE -				URINE -						
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil				
					Sugar -		Nil		Sugar -		Nil				
					Deposits -		NAD		Deposits -		NAD				
CHEST X – RAY					Normal										
SPUTIM FOR AFB					Negative										
MANTOUX					Negative										

2. Name:	Krishnammal	Age:	57	Sex:	F	O.P.No	39052	No. of Days Treated	49	Days	From	30.06.06			
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife				
Complaints & Duration	Respiratory System Examination				Investigations								Response		
	Before Treatment		After Treatment		Before Treatment				After Treatment						
Cough with expectoration, Sneezing, Breathlessness since 10 days	Cough	P	Cough	R	BLOOD-				BLOOD-						
					TC -		8500Cells/cu.mm		TC -		8000Cells/cu.mm				
	DC -		P	58%	L	35%	E	07%	DC	P	58%	L	38%	E	04%
	Sputum	W	Sputum	W	ESR	½ hr	15mm	1 hr	32mm	ESR	½ hr	10mm	1 hr	20mm	
					Hb-		71%		Hb-		71%				
	Bl.Sugar		70mgs%		Bl.Sugar		80mgs%								
	Bl. Urea		19mgs%		Bl. Urea		20mgs%								
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				223mgs%						
					URINE -				URINE -						
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil				
					Sugar -		Nil		Sugar -		Nil				
					Deposits -		NAD		Deposits -		NAD				
CHEST X – RAY					Chronic Bronchitis										
SPUTIM FOR AFB					Negative										
MANTOUX					Negative										

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

3. Name:	Mrs. Lakshmi	Age:	65	Sex:	F	O.P.No	39726	No. of Days Treated	32	Days	From	04.07.06			
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife				
Complaints & Duration	Respiratory System Examination				Investigations								Response		
	Before Treatment		After Treatment		Before Treatment				After Treatment						
Cough with expectoration Breathlessness on exposure to dust cold air since 2 years	Cough	P	Cough	R	BLOOD-				BLOOD-						
					TC -		9100Cells/cu.mm		TC -		9000Cells/cu.mm				
	DC -		P	70%	L	28%	E	02%	DC	P	68%	L	30%	E	02%
	Sputum	W	Sputum	W	ESR	½ hr	12mm	1 hr	25mm	ESR	½ hr	10mm	1 hr	20mm	
					Hb-		68%		Hb-		68%				
	Bl.Sugar		100mgs%		Bl.Sugar		95/mgs%								
	Bl. Urea		17mgs%		Bl. Urea		19mgs%								
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				165mgs%						
					URINE -				URINE -						
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil				
					Sugar -		Nil		Sugar -		Nil				
					Deposits -		2-3epithelial cells		Deposits -		NAD				
CHEST X – RAY					Normal										
SPUTIM FOR AFB					Negative										
MANTOUX					Negative										

4. Name:	Tamilselvi	Age:	39	Sex:	F	O.P.No	63716	No. of Days Treated	29	Days	From	07.11.06			
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife				
Complaints & Duration	Respiratory System Examination				Investigations								Response		
	Before Treatment		After Treatment		Before Treatment				After Treatment						
Cough with expectoration difficulty in breathing on exposure to cold air, dust since 6 years	Cough	P	Cough	R	BLOOD-				BLOOD-						
					TC -		8800Cells/cu.mm		TC -		8500Cells/cu.mm				
	DC -		P	68%	L	23%	E	09%	DC	P	72%	L	26%	E	02%
	Sputum	W	Sputum	W	ESR	½ hr	10mm	1 hr	18mm	ESR	½ hr	5mm	1 hr	10mm	
					Hb-		71%		Hb-		72%				
	Bl.Sugar		85mgs%		Bl.Sugar		82mgs%								
	Bl. Urea		26mgs%		Bl. Urea		25mgs%								
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				180mgs%						
					URINE -				URINE -						
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil				
					Sugar -		Nil		Sugar -		Nil				
					Deposits -		NAD		Deposits -		NAD				
CHEST X – RAY					Bronchitis										
SPUTIM FOR AFB					Negative										
MANTOUX					Negative										

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

5. Name:	Mrs. Alima	Age:	65	Sex:	F	O.P.No	39964	No. of Days Treated	40	Days		From	05.07.06							
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife									
Complaints & Duration	Respiratory System Examination				Investigations								Response							
	Before Treatment		After Treatment		Before Treatment				After Treatment											
Cough with expectoration, Breathlessness since 1 ½ months	Cough	P	Cough	R	BLOOD-				BLOOD-											
					TC -		9000Cells/cu.mm		TC -		8500Cells/cu.mm									
	DC -		P	65%	L	30%	E	05%	DC	P	65%	L	32%	E	03%					
	Sputum	W	Sputum	W	ESR	½ hr	16mm	1 hr	35mm	ESR	½ hr	10mm	1 hr	20mm						
					Hb-		68%		Hb-		68%									
	Bl.Sugar		88mgs%		Bl.Sugar		80mgs%													
	Bl. Urea		23mgs%		Bl. Urea		23mgs%													
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				148mgs%				Serum Cholesterol				150mgs%			
					URINE -				URINE -											
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil									
					Sugar -		Nil		Sugar -		Nil									
					Deposits -		1NAD		Deposits -		NAD									
CHEST X – RAY					Normal				CHEST X – RAY											
SPUTIM FOR AFB					Negative				SPUTIM FOR AFB											
MANTOUX					Negative				MANTOUX											

6. Name:	Velayudham	Age:	58	Sex:	M	O.P.No	40157	No. of Days Treated	49	Days		From	06.07.06							
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	coolie									
Complaints & Duration	Respiratory System Examination				Investigations								Response							
	Before Treatment		After Treatment		Before Treatment				After Treatment											
cough with expectoration, difficulty in breathing on exposure to cold air, dust etc., Since 6 months	Cough	P	Cough	R	BLOOD-				BLOOD-											
					TC -		8800Cells/cu.mm		TC -		8000Cells/cu.mm									
	DC -		P	63%	L	23%	E	04%	DC	P	65%	L	32%	E	03%					
	Sputum	W	Sputum	W	ESR	½ hr	30mm	1 hr	60mm	ESR	½ hr	15mm	1 hr	30mm						
					Hb-		68%		Hb-		70%									
	Bl.Sugar		83mgs%		Bl.Sugar		85mgs%													
	Bl. Urea		33mgs%		Bl. Urea		32mgs%													
	Breathlessness	++	Breathlessness	+	Serum Cholesterol				151mgs%				Serum Cholesterol				152mgs%			
					URINE -				URINE -											
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil									
					Sugar -		Nil		Sugar -		Nil									
					Deposits -		occult puscells		Deposits -		NAD									
CHEST X – RAY					chronic bronchitis				CHEST X – RAY				Normal							
SPUTIM FOR AFB					Negative				SPUTIM FOR AFB											
MANTOUX					Negative				MANTOUX											

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

7. Name:	Gomathy	Age:	57	Sex:	F	O.P.No	41125	No. of Days Treated	26	Days	From	11.07.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration difficulty in breathing on exposure to cold air, dust etc. Since 3 months	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		8400Cells/cu.mm		TC -		8000Cells/cu.mm			
					DC -	P	60%	L	36%	E	04%	DC	P	60%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	14mm	1 hr	30mm	ESR	$\frac{1}{2}$ hr	10mm	1 hr	20mm
					Hb-		66%		Hb-		68%			
					Bl.Sugar		166mgs%		Bl.Sugar		130mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		29mgs%		Bl. Urea		28mgs%			
					Serum Cholesterol		165mgs%		Serum Cholesterol		165mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		2-3epithelial cells		Deposits -		NAD			
CHEST X – RAY					Normal		CHEST X – RAY							
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

8. Name:	Jafar	Age:	31	Sex:	M	O.P.No	41489	No. of Days Treated	31	Days	From	13.07.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	coolie			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration Breathlessness on exposure to cold air, dust etc since 1 month	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		9700Cells/cu.mm		TC -		9000Cells/cu.mm			
					DC -	P	70%	L	27%	E	03%	DC	P	65%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	2mm	1 hr	4mm	ESR	$\frac{1}{2}$ hr	2mm	1 hr	4mm
					Hb-		78%		Hb-		78%			
					Bl.Sugar		89mgs%		Bl.Sugar		90mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		22mgs%		Bl. Urea		25mgs%			
					Serum Cholesterol		151mgs%		Serum Cholesterol		151mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		NAD		Deposits -		NAD			
CHEST X – RAY					Bronchitis		CHEST X – RAY		Normal					
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

9. Name:	Mrs. Shankari	Age:	45	Sex:	F	O.P.No	41758	No. of Days Treated	47	Days		From	14.7.06					
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife							
Complaints & Duration	Respiratory System Examination				Investigations										Response			
	Before Treatment		After Treatment		Before Treatment					After Treatment								
Cough with expectoration Breathlessness since one month	Cough	P	Cough	R	BLOOD-					BLOOD-								
					TC -		9000Cells/cu.mm			TC -		8500Cells/cu.mm						
	Sputum	W	Sputum	W	DC -	P	56%	L	40%	E	04%	DC	P	58%	L	40%	E	02
					ESR	½ hr	13mm	1 hr	28mm	ESR	½ hr	10mm	1 hr	20mm				
	Breathlessness	+++	Breathlessness	++	Hb-		68%			Hb-		68%						
					Bl.Sugar		88mgs%			Bl.Sugar		87mgs%						
	Rhonchi	P	Rhonchi	R	Bl. Urea		20mgs%			Bl. Urea		20mgs%						
					Serum Cholesterol		185mgs%			Serum Cholesterol		180mgs%						
					URINE -				URINE -									
					Albumin-		Nil			Albumin-		Nil						
					Sugar -		Nil			Sugar -		Nil						
					Deposits -		Few pus cells / HPF			Deposits -		NAD						
CHEST X – RAY				Normal					CHEST X – RAY									
SPUTIM FOR AFB				Negative					SPUTIM FOR AFB									
MANTOUX				Negative					MANTOUX									

10. Name:	Jebas	Age:	82	Sex:	M	O.P.No	41781	No. of Days Treated	48	Days		From	14.07.06					
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Coolie							
Complaints & Duration	Respiratory System Examination				Investigations										Response			
	Before Treatment		After Treatment		Before Treatment					After Treatment								
Cough with expectoration chest tightness, breathless during winter season since 1 year	Cough	P	Cough	R	BLOOD-					BLOOD-								
					TC -		9400Cells/cu.mm			TC -		9000Cells/cu.mm						
	Sputum	W	Sputum	W	DC -	P	64%	L	32%	E	04%	DC	P	64%	L	32%	E	04%
					ESR	½ hr	10mm	1 hr	22mm	ESR	½ hr	10mm	1 hr	20mm				
	Breathlessness	++	Breathlessness	+	Hb-		71%			Hb-		71%						
					Bl.Sugar		80mgs%			Bl.Sugar		88mgs%						
	Rhonchi	P	Rhonchi	R	Bl. Urea		17mgs%			Bl. Urea		20mgs%						
					Serum Cholesterol		150mgs%			Serum Cholesterol		150mgs%						
					URINE -				URINE -									
					Albumin-		Nil			Albumin-		Nil						
					Sugar -		Nil			Sugar -		Nil						
					Deposits -		NAD			Deposits -		NAD						
CHEST X – RAY				Bronchitis					CHEST X – RAY									
SPUTIM FOR AFB				Negative					SPUTIM FOR AFB									
MANTOUX				Negative					MANTOUX									

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

11. Name:	Adhimoolam	Age:	50	Sex:	M	O.P.No	42918	No. of Days Treated	43	Days	From	20.07.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Farmer			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration , Breathlessness on exposure to dust since 4 years	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		9700Cells/cu.mm		TC -		9500Cells/cu.mm			
					DC -	P	60%	L	36%	E	04%	DC	P	62%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	5mm	1 hr	12mm	ESR	$\frac{1}{2}$ hr	5mm	1 hr	12mm
					Hb-		69%		Hb-		70%			
					Bl.Sugar		98mgs%		Bl.Sugar		90mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		18*mgs%		Bl. Urea		20mgs%			
					Serum Cholesterol		191mgs%		Serum Cholesterol		190mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		Occult pus cells		Deposits -		NAD			
CHEST X – RAY					Normal		CHEST X – RAY							
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

12. Name:	Subbulakshmi	Age:	40	Sex:	F	O.P.No	45526	No. of Days Treated	43	Days	From	03.08.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration difficulty in breathing since 4 years	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		9400Cells/cu.mm		TC -		9000Cells/cu.mm			
					DC -	P	55%	L	43%	E	02%	DC	P	52%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	30mm	1 hr	62mm	ESR	$\frac{1}{2}$ hr	15mm	1 hr	30mm
					Hb-		68%		Hb-		70%			
					Bl.Sugar		74mgs%		Bl.Sugar		73mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		25mgs%		Bl. Urea		22mgs%			
					Serum Cholesterol		187mgs%		Serum Cholesterol		190mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		occult pus cells		Deposits -		NAD			
CHEST X – RAY					Normal		CHEST X – RAY							
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

13. Name:	Annamalai	Age:	70	Sex:	M	O.P.No	47089	No. of Days Treated	43	Days	From	11.08.06						
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water						Diagnosis	Eraippu Erumal			Occupation:	Labourer						
Complaints & Duration	Respiratory System Examination				Investigations								Response					
	Before Treatment		After Treatment		Before Treatment				After Treatment									
Dry cough, Breathlessness , chest tightness on exposure to dust since 3 years	Cough	P	Cough	R	BLOOD-				BLOOD-									
					TC -		9800Cells/cu.mm		TC -		9000Cells/cu.mm							
	Sputum	-	Sputum	-	DC -	P	66%	L	30%	E	04%	DC	P	60%	L	36%	E	04%
					ESR	½ hr	40mm	1 hr	85mm	ESR	½ hr	20mm	1 hr	40mm				
	Breathlessness	++	Breathlessness	+	Hb-		75%		Hb-		75%							
					Bl.Sugar		91mgs%		Bl.Sugar		90mgs%							
	Rhonchi	P	Rhonchi	R	Bl. Urea		19mgs%		Bl. Urea		20mgs%							
					Serum Cholesterol		153mgs%		Serum Cholesterol		153mgs%							
	URINE -				URINE -													
	Albumin-				Nil													
	Sugar -				Nil													
	Deposits -				NAD													
	CHEST X – RAY				Normal													
SPUTIM FOR AFB				Negative														
MANTOUX				Negative														

14. Name:	Chandrasekar	Age:	65	Sex:	M	O.P.No	50687	No. of Days Treated	27	Days	From	30.08.06						
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water						Diagnosis	Eraippu Erumal			Occupation:	Labourer						
Complaints & Duration	Respiratory System Examination				Investigations								Response					
	Before Treatment		After Treatment		Before Treatment				After Treatment									
Cough with expectoration , Breathlessness on exposure to cold air dust et since 1 year	Cough	P	Cough	R	BLOOD-				BLOOD-									
					TC -		8400Cells/cu.mm		TC -		8500Cells/cu.mm							
	Sputum	Y	Sputum	W	DC -	P	65%	L	28%	E	07%	DC	P	65%	L	30%	E	05%
					ESR	½ hr	15mm	1 hr	28mm	ESR	½ hr	15mm	1 hr	25mm				
	Breathlessness	+++	Breathlessness	++	Hb-		75%		Hb-		75%							
					Bl.Sugar		211mgs%		Bl.Sugar		190mgs%							
	Rhonchi	P	Rhonchi	P	Bl. Urea		22mgs%		Bl. Urea		20mgs%							
					Serum Cholesterol		198mgs%		Serum Cholesterol		198mgs%							
	URINE -				URINE -													
	Albumin-				Nil													
	Sugar -				+													
	Deposits -				NAD													
	CHEST X – RAY				Normal													
SPUTIM FOR AFB				Negative														
MANTOUX				Negative														

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

15. Name:	Mariappan	Age:	60	Sex:	M	O.P.No	61628	No. of Days Treated	27	Days	From	26.10.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Farmer			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration Breathlessness on exposure to cold air, dust etc since 1 year	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		8600Cells/cu.mm		TC -		8000Cells/cu.mm			
					DC -	P	56%	L	40%	E	04%	DC	P	56%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	20mm	1 hr	42mm	ESR	$\frac{1}{2}$ hr	10mm	1 hr	20mm
					Hb-		71%		Hb-		71%			
					Bl.Sugar		75%		Bl.Sugar		72%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		19%		Bl. Urea		19%			
					Serum Cholesterol		153%		Serum Cholesterol		153%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		1-2puscells		Deposits -		NAD			
					CHEST X - RAY		Normal		CHEST X - RAY					
					SPUTIM FOR AFB		Negative		SPUTIM FOR AFB					
MANTOUX		Negative		MANTOUX										

16. Name:	Balasubraman ian	Age:	62	Sex:	M	O.P.No	61737	No. of Days Treated	28	Days	From	26.10.06		
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife			
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration difficulty in breathing on exposure to cold air, dust etc. Since 2 years	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		8600Cells/cu.mm		TC -		8000Cells/cu.mm			
					DC -	P	64%	L	32%	E	04%	DC	P	60%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	10mm	1 hr	30mm	ESR	$\frac{1}{2}$ hr	10mm	1 hr	20mm
					Hb-		71%		Hb-		71%			
					Bl.Sugar		70mgs%		Bl.Sugar		75mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		23mgs%		Bl. Urea		20mgs%			
					Serum Cholesterol		154mgs%		Serum Cholesterol		154mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		1-2puscells		Deposits -		NAD			
					CHEST X - RAY		Normal		CHEST X - RAY					
					SPUTIM FOR AFB		Negative		SPUTIM FOR AFB					
MANTOUX		Negative		MANTOUX										

Mild - + Moderate - ++ Severe - +++
P - Present R - Reduced
W - Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

17. Name:	Sornam	Age:	55	Sex:	F	O.P.No	61854	No. of Days Treated	27	Days	From	29.10.06							
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife								
Complaints & Duration	Respiratory System Examination				Investigations								Response						
	Before Treatment		After Treatment		Before Treatment				After Treatment										
Cough with expectoration sneeing, Breathlessness on exposure to dust since 1 year	Cough	P	Cough	R	BLOOD-				BLOOD-										
					TC -				TC -										
					11200Cells/cu.mm				9000Cells/cu.mm										
	Sputum	W	Sputum	W	DC -	P	68%	L	20%	E	12%	DC	P	68%	L	28%	E	04%	
					ESR	$\frac{1}{2}$ hr	3mm	1 hr	6mm	ESR	$\frac{1}{2}$ hr	3mm	1 hr	6mm					
					Hb- 71%				Hb- 70%										
	Breathlessness	+++	Breathlessness	+	Bl.Sugar 94mgs%				Bl.Sugar 94mgs%										
					Bl. Urea 27mgs%				Bl. Urea 25mgs%										
					Serum Cholesterol 194mgs%				Serum Cholesterol 190mgs%										
	Rhonchi	P	Rhonchi	R	URINE -				URINE -										
					Albumin- Nil				Albumin- Nil										
					Sugar - Nil				Sugar - Nil										
					Deposits - 2-3puscells				Deposits - NAD										
CHEST X - RAY					Bronchitis				CHEST X - RAY				Normal						
SPUTIM FOR AFB					Negative				SPUTIM FOR AFB										
MANTOUX				Negative				MANTOUX											

18. Name:	Annamalai	Age:	60	Sex:	M	O.P.No	62185	No. of Days Treated	25	Days	From	30.10.06							
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal			Occupation:	Housewife								
Complaints & Duration	Respiratory System Examination				Investigations								Response						
	Before Treatment		After Treatment		Before Treatment				After Treatment										
Cough with expectoration Breathlessness, chest tightness since 2 months	Cough	P	Cough	R	BLOOD-				BLOOD-										
					TC -				TC -										
					7000Cells/cu.mm				7500Cells/cu.mm										
	Sputum	Y	Sputum	W	DC -	P	64%	L	30%	E	06%	DC	P	64%	L	30%	E	06%	
					ESR	$\frac{1}{2}$ hr	15mm	1 hr	28mm	ESR	$\frac{1}{2}$ hr	15mm	1 hr	28mm					
					Hb- 81%				Hb- 81%										
	Breathlessness	++	Breathlessness	+	Bl.Sugar 91mgs%				Bl.Sugar 98mgs%										
					Bl. Urea 32mgs%				Bl. Urea 32mgs%										
					Serum Cholesterol 156mgs%				Serum Cholesterol 155mgs%										
	Rhonchi	P	Rhonchi	R	URINE -				URINE -										
					Albumin- Nil				Albumin- Nil										
					Sugar - Nil				Sugar - Nil										
					Deposits - NAD				Deposits - NAD										
CHEST X - RAY					Chronic bronchitis				CHEST X - RAY				Normal						
SPUTIM FOR AFB					Negative				SPUTIM FOR AFB										
MANTOUX				Negative				MANTOUX											

Mild - + Moderate - ++ Severe - +++

P - Present R - Reduced

W- Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms

Fair Response : Partial amelioration of signs and symptoms

Poor response : In significant amelioration of signs and symptoms

19. Name:	Jeyalaxmi	Age:	30	Sex:	F	O.P.No	62329	No. of Days Treated	25	Days		From	30.10.06	
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal		Occupation:	Housewife				
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
cough with expectoration sneezing, breathlessness on exposure to cold air, dust since 3 months	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		8000Cells/cu.mm		TC -		8000Cells/cu.mm			
					DC -	P	64%	L	32%	E	04%	DC	P	64%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	7mm	1 hr	15mm	ESR	$\frac{1}{2}$ hr	5mm	1 hr	10mm
					Hb-		68%		Hb-		68%			
					Bl.Sugar		92mgs%		Bl.Sugar		90mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		20mgs%		Bl. Urea		22mgs%			
					Serum Cholesterol		159mgs%		Serum Cholesterol		160mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		Few epithelial cells		Deposits -		NAD			
CHEST X - RAY					Normal		CHEST X - RAY							
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

20. Name:	Shankarasubbu	Age:	63	Sex:	M	O.P.No	62937	No. of Days Treated	34	Days		From	02.11.06	
Drug	Sadamanjil ver chooranam 1gm Three times a day with Hot water					Diagnosis	Eraippu Erumal		Occupation:	labourer				
Complaints & Duration	Respiratory System Examination				Investigations								Response	
	Before Treatment		After Treatment		Before Treatment				After Treatment					
Cough with expectoration chest tightness breathness on exposure to dust, since young age	Cough	P	Cough	R	BLOOD-				BLOOD-					
					TC -		10500Cells/cu.mm		TC -		9000Cells/cu.mm			
					DC -	P	50%	L	35%	E	15%	DC	P	58%
	Sputum	W	Sputum	W	ESR	$\frac{1}{2}$ hr	4mm	1 hr	10mm	ESR	$\frac{1}{2}$ hr	4mm	1 hr	10mm
					Hb-		70%		Hb-		70%			
					Bl.Sugar		91mgs%		Bl.Sugar		92mgs%			
	Breathlessness	++	Breathlessness	+	Bl. Urea		17mgs%		Bl. Urea		18mgs%			
					Serum Cholesterol		164mgs%		Serum Cholesterol		165mgs%			
					URINE -				URINE -					
	Rhonchi	P	Rhonchi	R	Albumin-		Nil		Albumin-		Nil			
					Sugar -		Nil		Sugar -		Nil			
					Deposits -		NAD		Deposits -		NAD			
CHEST X - RAY					Normal		CHEST X - RAY							
SPUTIM FOR AFB					Negative		SPUTIM FOR AFB							
MANTOUX		Negative		MANTOUX										

Mild - + Moderate - ++ Severe - +++
P - Present R - Reduced
W - Whitish Y - Yellowish

Good Response : Significant amelioration of signs & symptoms
Fair Response : Partial amelioration of signs and symptoms
Poor response : In significant amelioration of signs and symptoms

Mild - + Moderate - ++ Severe - +++
P – Present R – Reduced
W- Whitish Y - Yellowish

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