International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Review Article

Scientific Analysis of Herbal Drugs for Management of Blepharitis

Pratibha Upadhyay

PhD Scholar, PG Department of Shalakya Tantra, NIA, Jaipur.

Received: 29/05/2016 *Revised: 18/06/2016* *Accepted: 21/06/2016*

ABSTRACT

Ayurveda; the basic life science has a great contribution to science, since very long time as the herbal drugs are exceedingly used in alleviating wide range of diseases. Shalakya tantra deals with ocular diseases, and has been significantly contributing to the eye care. The Ayurveda based eye care and herbal drugs are now a days becoming the main stream for such diseases. Though being very common but very disturbing disease is blepharitis that does not have total cure through modern medicines, so we just going through some common herbs that can be used in blepharitis.

Key words: shalakya, ayurveda, eye diseases, karanja, tulsi, blepharitis.

INTRODUCTION

Now a day, ophthalmology is touching the sky with ultra modern diagnostic techniques and instrumentations, in spite of all that we are facing newer kinds of critical problems. Certain new disease as of eye are facing challenges to be cured properly solely by modern ophthalmology, so the world is facing towards ayurveda for the alternate and better treatment. Netra roga vigyan, the major field of shalakya tantra among astanga ayurveda is one of the developed life science. Treatment of eye diseases as per ayurveda is same as in other diseases means abstaining from the causative factors. The indigenous herbal drugs can prove a boon to many disorders of eye like retinitis pigmentosa, armd, diabetic retinopathy including other disorders of retina, glaucoma, optic atrophy which are the grey areas of ophthalmology. In context to this, for the sake of humanity the doctors are very flexible in finding newer source of drug modality for such ophthalmic diseases and for this our ayurvedic herbs have the greatest contribution in this regard.

There are innumerous varieties of herbs that are beneficial in such ophthalmic diseases, as here we are focusing over the disease, blepharitis that is so notorious in nature and also very common but very annoying to the ophthalmologists and to the patients too, because of its recurrent nature and lifelong treatment. Local use of lubricants, antibiotics, and lid hygiene are the measures that are to be taken by the patient, so our indigenous herbs can prove a boon for such ocular disorders. [1] A very good combination of drug has been searched in our ancient texts and formulation having karanja beeja, jati patra and tulsi that has been indicated and thorough research work done in this disease. Along with that use of rasanjana, triphala has also been indicated in the disease

Blepharitis has very complex symptomatology that can be correlated to the few eye diseases mentioned in our texts, like shayayv vartma, klinna vartma, krimigrnthi, pakshmashata. All these have more or less symptoms like that of blepharitis. Here we are focusing particularly on the drug and discussing the

major properties of drug that are responsible for the cure of disease. *Ayurvedic* approach for treatment of *Krimigranthi* (Blephrities) is to treat symptoms and prevent recovery of this disease. *Krimigranti* is one of the *Sandhigata Netraroga* which is characterised by itching, irritation, mild discomfort, occasional pain, watering and falling of eye lashes. [2] So those herbs that are vata and kapha pacifying are to be useful in this disease.

KARANJA

Botanical name- Pongamia pinnata

Family- Fabaceae (Papilionaceae)

Description- Moderate-sized spreading trees, up to 25 meters tall; wood yellowish white; bark smooth or soft, Leaves imparipinnate, glabrous. up to 35 cm. long; leaflets ovate or elliptic sharply acuminate, bright green. Flowers 2-4 pinnate in simple, long-peduncled racemes. Bracts caducous. Calyx teeth obsolete. Corolla purple to white; vexillum auricled at base, wings slightly adherent to keel. Pod indehiscent; turgid, almost woody, seeds reniform; pods more or less falcate; 1-seeded, 1-1.5 or 2 in. long, seeds only.

Flowering and fruiting -It flowers in March-May and fruits in rainy months.

Kinds and Varieties- Generally there are two kinds of Karanja in classical texts (Samhitas and nighantus) viz. Karañja and Kantaki Karañja which are botanically known as Caesalpinia crista Linn. and Pongamia pinnata Pierre. The term 'Karanja dvay' indicates 'Putika and Naktamala. Putika and Naktamala are considered to be Cirabilva and Karanja respectively. Later 'Karanja dvaya' has become 'Karanja traya' after addition of Kantaki Karanja. Cirabilva is botanically named as Holoptelia integrifolia.

Properties and action -

Rasa -katu tikta,

Guna tikshna

Virya usna

Vipaka -katu

Karma - Krimijit, kushtagna, kaphavataghna, vranashodhana, kapha vata nashaka.

Therapeutic uses- vrana krimi, kustha.

Chemical composition [3] - fixed oil, flavones, essential oil. Seeds contain viscid yellow oil 27 percent which is known as Pongamia oil and the oil becomes solid at 80 centigrade. Bark yields a bitter alkaloid which is soluble in ether, alcohol and water. Pongamia oil (Karanja taila) is 27-29 percent. It contains karanjin which an active constituent and germicial agent. Pongamol is also found.

JATI

Gana: (Charak) Kusthagna

Botanical Name: Jasminum Officinale

Family : Oleaceae

Synonym: Jati, Sumanaa, Chetikaa, **Hridyagandha**

Hindi Name : Chameli.

Plant: A large twining nearly glabrous shrub.

Leaves: Opposite 5-12.5cm long, petioled and rachis margined, leaflet 7-11, at terminal.

Flower :3-3.8cm across white often tinged with pink out side.

Varieties - Two Vaxieties:

1. White Flower
2. Yellow Flower also called swarn jati

Flowering : Spring

Part used : Leaves, flower & whole plant.

Description

Their leaves are mostly ternate or pinnate; the flowers, usually white or yellow, with a tubular, five- or eight-cleft calyx, a cylindrical corolla-tube, with a spreading limb, two stamens enclosed in the corolla-tube and a two-celled ovary.

Properties

Guna:Laghu, Mridu, Snigdh

Rasa:Tikta, Kasaya

Vipaka :Katu,

Veerya Ushna

DosaKarma:Tridosahara,chakshusya. sirovirechana

Therapeutic uses- The flower is acrid, bitter with sharp taste, healing emetic, alexiteric, vulnerary. It is useful in the eye stomatitis and disease of the mouth and the head.

The flowers are bitter and with bad taste, they are tonic, purgative. They are useful in headache, asthma, carries of teeth and stomatitis. It lessen inflammation, softens the skin, tonic to the brain, aphrodisiac, antihelmintic and they are useful for pain in the joint and the ear and scabies.

The flowers and their essence are used as an application in skin disease, headache and weak eye, the leaves are used as toothache. The leaves are used in ulceration and eruption in the mouth. Fresh juice of leave is used as an application for tern an oil preparation containing the juice is used in otorrhoea. The whole plant is considered to be antihelmintic, diuretic. Flowers are used in skin diseases, headache and eye disorder. The leaf juice is applied to corn and ear discharge. The leaves contain salicylic acid. The root is used in the treatment of ring worm. [4]

Medicinal Use- Antiseptic, Antispasmodic, Aphrodisiac, Aromatherapy, Galactogogue, Parasiticide.

Chemical Composition- Flower yield in aromatic essential oil, Benzyl acetate is the chief constituent of the oil from the flower which also contains methyl anthanilate and 1-lihalool.The essential oil of *Jasminium* contains methyl anthranilate, indol, benzyl alcohol, benzyl acetate, and the terpenes linalol and linalyl acetate

TULASI

Botanical name: Ocimum sanctum Linn.

Family : Lamiaceae

Classical name: Tulasi

Sanskrit names Tulasi, Sulabha, Devadundubhi, Apetakari, Surasa, Gramya, Bhutaghni, Bahumanjari.

Description - An erect, herbaceous, much-branched, softly hairy, annual, 30-75 cm. high. Leaves elliptic-oblong, acute or obtuse, entire or serrate, pubescent on both sides, minutely gland-dotted.

Flowers purplish or crimson, in racemoes, closewhorled. Nutlets sub-globose or broadly ellipsoid, slightly compressed, nearly smooth, pale brown or reddish, with small black markings.

Kinds and varieties

Classically, there are mainly two kinds of Tulasi viz. Sveta tulasi and Krsna tulasi as indicated in Nighantus (Bhavamira). Susruta Samhita mentions two varieties as Surasa and sveta surasã. Thus, two kinds of Tulasi are considered such as white (sveta) and black (krshna) Tulasi.

Some species of Ocimum genus are referred in Context of Tulasi. Ocimum canum Sims. (White flowered, Sveta surasa), 0. gratissimum Linn. (Phauijjaka, Rãmatulasi), 0. americanum Linn. (a variety of sveta tulasi) and 0. kilimandascharicum Guerke. (Kapuri tulasi-Karpüra tulasi).

Chemical composition [5] - The leaves on steam-distillation yield a bright yellow oil possessing a pleasant odour characteristic of the plant with appreciable amount of cloves. The seeds of plant give a greenish yellow fixed oil (17.8%) with good drying properties, containing sitosterol). The fatty acid composition of the oil is as follows: palmitic 6.9, stearic 2.1, oleic 9.0, linoleic 66.1 and 15.7 per cent.

Pharmacodynamics

Rasa:Katu, tikta

Guna:Laghu, ruksa

Virya:Ushna

Vipaka:Katu

Dosakarma:Kaphavatasamaka

Therapeutic uses - The drug Tulasi is antipyretic, aromatic, carminative, diaphoretic and expectorant. It is used in anorexia, cough, hiccough, pleurisy, respiratory disorders and leprosy. The drug is given in traditional medicine in catarrh, coryza, cold, fever, influenza, fevers specially simulating symptoms of malaria. Seeds jelly is water is given in diarrhoea and dysentery in children. [6]

The oil is reported to inhibit in vitro growth of Mycobacterium tuberculosis and Micrococcus pyogenes var. aureus, since the oil possesses antibacterial and insecticidal properties, which is one-tenth activity (potency) of streptomycin and one-fourth that of isoniaziol. [7] It has marked in septicidal activity against mosquitoes. Apart from the high medicinal efficacy, Tulsi has

great religious value and antimicrobial potentials.

Parts used: Leaves, roots, seeds.

Dose Juice 10-20 ml, Roots decoction 50-100 ml, Seeds powder 3-6 gm. Groups--Svasahara (Caraka Samhita), Surasadi, Sirovirecana (Susruta Samhita).

Chemistry-O. sanctum revealed the presence of eugenol 70% as major constituent. Other components identified are nerol, methyl ether, caryophyllens, tripinine-4-ol, decaldehyde, gammaselinene, alpha-pinene, beta -pinene, camphor and earvacrol. [8]

The leaves have also been reported to yield ursolic acid, apegenin, leutolin, apigenin-7- o-glucuronide, leuteolin, 7-o-glucuronide, orentin and molludistin.

Anti inflammatory activity-In animal studies with carrageenin induced hind paw odema, the ethanolic extract of fresh leaves, volatile and fixed oils shows significant inhibition of paw odema. The same effect is also seen against seratonin, PGE2 and histamine induced paw odema.The extract and oil of 0. sanctum shows significant anti inflammatory activity against all the four phlogistic agents i.e. carrageenin, seratonin , histamine and PGE2 induced inflammations. [9]

DARUHARIDRA

Botanical name- Berberis aristata.

kula- daruharidrakula.

gana- charaka:lekhaniya, arshoghana, kandughana.

susruta:haridradi, musaladi, laksadi, daruharidradi.

bheda (varieties)-

There are about 12 species of berberies seen in himalayas and assam. common species used as daruharidra are berberisaristata. berberisasiatica dc.ex.dc and berberis lyceum royle.

Main features- plant is with yellow coloured wood. Leaves have spiny margins. a fruit is rainy season. It is useful as a blood purifier, authelmenthic. Improves liver function and also useful in eye disorder.

prayojyaanga (part used) -mula and kanda.

rasa: tikta, kasaya. virya: ushna.

guna: laghu, ruksha. vipaka: katu.

doshakarma- - kaphapittasamaka.

rogaghnakarma (pharmological action) - sothahara, vedanasthapana, vranasodhana, vranaropana, dipana, pachana, raktasodaka, kaphagna, svedajanana, vranya, tvakdosahara and rasayana.

amayikaprayoga (therapeutic uses)- - rasanjana is useful in netraroga.

matra (dose)- -drug in kwata form 50-100ml.

rasanjana-1-3 gms.

Chemical constituents- -alkaloids, berberin sulphate, berberine.

RASANJANA -*Rasanjana* is the solid extract of the stems and roots of *Daruharidra*. They are usually covered with leaves. On removing the leaves a brownish black, shiny substance is seen and it is very bitter in taste. This is known as rasanjana. [10]

Triphala -haritaki having panchrasa lavana varjita, madhura vipaka,ushna virya, amalaki having panch rasa madhura vipaka, sheeta virya, vibhitaki having kashaya katu tikta rasa, madhura vipaka, ushna virya. so pharmacological action of tripahala is anti-inflammatory, anti infective, blood purifier.

Madhu

Synonyms -- Madhu, Makshika, Madhvika, Kshaudra, Saradha, Makshikavanta, Varativant, Bhringvanta and puspa rasa drava, Shahad, Honey

Pharmacotherapeutic properties--Sheetal, laghu, swadu, Ruksha, grahi, chakshushya, Agnideepaka, swarghna, Vrana ropaka, and Vrana sodhana, sukumarata, sukshmasrotagami, Varnya, medya, veerya vardhaka, vishada, rochaka, yogvahi,madhur kashaya rasa.

It cures kustha, Arsha, Kaas, pitta, Prameha Krimi, meda, trishna, Vamana, Swas, Hikka, Atisar, rnalvandha, Daham Kshat and Kshaya.

Pharmacological Action - In Ayurveda which is at least 4000 years old medicine originating from India, honey is considered to affect positively in all three primitive material imbalances of the body.

"Vaatalam guru sheetalam cha raktapittakaphapaham| Sandhatru chedanam ruksham kashayam madhuram madhu||" [11] "It has sweetness with added astringent as end taste. It is heavy, dry and cold. Its effect on doshas (imbalances) is that it aggravates vata (air / moving forces), scrapes kapha (mucus / holding forces) and normalizes pitta (catabolic fire) and rakta (blood). It promotes healing process."

Increased lymphocyte and phagocytic activity-The clearing of infection seen when honey is applied to a wound may reflect more than just antibacterial properties. Recent research shows that the proliferation of peripheral blood B-lymphocytes and T-lymphocytes in cell culture is stimulated by honey at concentrations as low as 0.1%; and phagocytes are activated by honey at concentrations as low as 0.1%. Honey (at a concentration of 1%) also stimulates monocytes in cell culture to release cytokines, tumour necrosis factor (TNF)-alpha, interleukin (IL)-1 and IL-6, which activate the immune response to infection. In addition, the glucose content of honey and the acid pH (typically between pH3 and pH4) may assist in the bacteria-destroying action of macrophages. [12]

Anti-bacterial potency-Honey is produced from many different floral sources and its antimicrobial activity-- varies with origin and processing. Aristotle (384-322 BC), when discussing different honeys, referred to pale honey as being "good as a salve for sore eyes and.

Honey chelates and deactivates free iron, which would otherwise catalyze the formation of oxygen free radicals from hydrogen peroxide, leading to inflammation. Also, the antioxidant constituents in honey help clean up oxygen free radicals present.

When honey is used topically (as, for example, a wound dressing), hydrogen peroxide is produced by dilution of the honey with body fluids. As a result, hydrogen peroxide is released slowly and acts as an antiseptic. Honey has been shown to be an effective treatment for conjunctivitis in rats. [13]

A more recent study has shown pollen collected by bees to exert an anti allergenic effect, mediated by an inhibition of IgE immunoglobulin binding to mast cells. This inhibited mast cell degranulation and thus reduced allergic reaction. The risk of experiencing anaphylaxis as an immune system reaction may outweigh any potential allergy relief.

CONCLUSION

As ayurveda has the treasure of such useful herbs that helps in curing various diseases if used cautiously as mentioned in the ancient texts. These herbs can prove a boon for so many ailments which have no cure in modern science. The role of above mentioned drugs have been already mentioned in the texts only we have to follow their instructions on side by side the various scientific studies are also going on that can prove their efficacy in modern terms too .

REFERENCES

1. Ambika Data Shashtri, Susruta Samhita Uttar Tantra, Chaukhambha Sanskrit Sansthan, seventh edition, third chapter, 1990.3/20 page no.278.
2. McCulley JP, Shine WE, Meibomian secretions in chronic blepharitis. Adv Exp Med Biol 1998;438:319-2
3. Khurana A.K. Applied Anatomy of the eyelid. Ophthalmology 3rd Edition, 2005, New age International (P.) Limited.
4. Burt, S., Essential oils: Their antibacterial properties and potential applications in foods-a review, international journal of food microbiology , 2002, 1;12-14
5. Siddiqui HH. Safety of herbal drugs-an overview. *Drugs News & Views* 1993; 1(2): 7-10.
6. WHO survey. In medicinal plants (Eds. Haq. I.) *Hamdard Foundation Press*, Karachi, 13, 1993.
7. Sen P. Therapeutic potentials of Tulsi: from experience to facts. *Drugs News & Views* 1993; 1(2): 15-21.

8. Chopra RN, Chopra IC, Handa KL, Kapoor LD. Indigenous drugs of India, Published by UN Dhar, Pvt. Ltd., Calcutta 1993. Page 234.
9. Molan PC, The antibacterial activity of honey,The nature of the antibacterial activity. Bee World 1992; 73(1): 5-28.
10. Brady NF, Molan PC, Harfoot CG. The sensitivity of dermatophytes to the antimicrobial activity of manuka honey and other honey. Pharm Sci 1997; 2: 1-3.
11. Kc chunekar,Bhavamishra bhavprakash vimarsh, Jamnagar 1997,5th edition chaukhambha prakashan, Varanasi, page no. 597-600.
12. Sharma P.V. Dravyaguna Vigyan, chaukhambha prakashan, Varanasi, 6th edition, page no. 587-678.
13. Wahdan H. "Causes of the antimicrobial activity of honey" Chemical & Engineering News Vol. 86 No. 35, 1 September 2008.page no. 43.

How to cite this article: Upadhyay P. Scientific analysis of herbal drugs for management of blepharitis. Int J Health Sci Res. 2016; 6(7):349-354.

****