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Review Article

STUDY OF *PANCHVALKAL KASAYA* IN VAGINAL DISCHARGE W.S.R TO ANTIMICROBIAL PROPERTIES

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ABSTRACT

Vaginal Discharge is a common complaint of women coming for medical consultation, it is characterized by discharge per vagina, with itching. It is very common in developing countries like India where unhygienic condition are prevalent, Stressful Modern life styles, Food Habits, Social status. It is common problem which affect women during reproductive age. WHO has estimated that there are 333 million new cases of curable Vulvovaginal infections per year. Many formulations have been mentioned in Ayurvedic texts for treatment of *Yonigatasrava. Panchvalkal* has been explained in *Bhavprakash.* The main objective of this review article is to discuss the thereupatic uses of *Panchvalkal* in various diseases and to discuss the different pharmacological properties and thereupatic uses of *Panchvalkal*. The selected drug is found to be effective in vaginal discharge w.s.r. to its Antimicrobial properties. It helps in eliminating symptoms like *Srava, Kandu, Dorgandhya, Vedana* etc. it has *Kashya* and *Katu* Properties. These *Gunas* are effective on vitiated *Kapha* and normalize it. The present attempt to encompass the up to date comprehensive literature to Study the mode of action of *Panchvalkal* in vaginal discharge w.s.r. to Ayurvedic properties and Modern pharmacology.

KEYWORDS: Vaginal Discharge, *Panchvalkal, Yonigatasrava,* Pharmacology.

INTRODUCTION

Ayurveda is the science of life, so far as the procreation of human being is concerned woman play most important role in the fulfillment of biological cycle. That is why *Acharya Charaka* has glorified the presence of women by saying that she is the bearer of offspring *Dharma, Artha and Lakshyami* and two World[1]. Healthy women, healthy world embodies the fact that as custodian of family health, women play a critical role in maintaining the health and wellbeing of their communities. Women often ignore and delay self-care as they pay more attention towards family and because of this Negligence, women often suffer with health problems. In all classics *Yonisrava* is mentioned as symptom of *Yonivyapada.* Description of *Samprapti* of *Yonivyapada* is not available in any single *Samhita of Ayurveda.* Hence vaginal discharge is described as a symptom *Yonivyapada.*

Aims and objectives

The main aim of the Article is to Study the Mode of action of *Panchvalkal Kwath* in Vaginal Discharge w.s.r. to Ayurvedic properties and Modern Pharmacology.

Vaginal discharge

Vaginal discharge is the most common gynecological problem faced by women at one time or another in their life. Abnormal vaginal discharge have been considered as a symptom of so many disease and Sometimes it is so much pronounced that it over-shades the actual disease. Normally vaginal discharge occurs in regular variation and consistency during different course of time like Menstrual cycle, Pregnancy, Lactation, postmenopausal etc. It may be physiological or pathological. Pathological need necessary treatment and various causes are candidiasis, bacterial vaginitis, Endometriosis etc. The other factor is hormonal imbalance which affects physiological Vaginal pH and causes excessive white Vaginal discharge called as Leucorrhoea, which affects women psychologically and physically and disturb her quality of life till the extent that patient sometimes prefer to undergo hysterectomy. Accordingto Ayurveda, due to *Nidana Sevana* which includes *Kapha, Vattaavum Pitta vardahk Aahar Vihar Agnimandya* occur. *Agnimandya* leads to *Aamotpati*. Due to *Aamotpati kapha* predominant *Doshdusti* occur by *Snigdha* and *Picchila guna* with *Anubandh* of *Vata* by *Chala* Guna and *Pitta* by *Drava, Visra Avum Sara Guna*. Then diffusion of *Doshas* occur in whole body through *Siras* and *Srotas*. *Doshas* reaches to *Yoni* and *Garbhashya* by the driving force of *Apanvayu* where *Sthanshamshraya* of *Doshas* occur in *Yoni* and

Garbhashya lead to *Garbhashya Avum Yonidusti*. Other *Nidana* like *Ativyavaya* cause *Sthanik Uttejna* leads to *Vatta Avum Kapha Dusti, Apadravya Prayoga* causes *Yonikshata* (which leads to *Yonigata Vrana Avum Soth* (Vaginitis) causes *Kapha Dusti*, due to *Yoni Adhavan Krimi Utappati* occur which leads to *Vata Avum Kapha Uttapati* and *Vegadharan* leads to *Apana Vayu Dusti*. Ultimately all these *Sthanik* causes leads to *Yonidusti.* consequently, *Dushita Yoni* by vitiation of *Doshas* influenced by *Sthanika* Etiological factor leads to *Yoni Srava.*[2]

AYURVEDIC PHARMACOLOGY

Drug	Botanical Name	*Rasa*	*Guna*	*Veerya*	*Vipaka*	*Karma*
Vaat	*Ficus bengalensis*	*Kashya*	*Guru Ruksha*	*Sheeta*	*Katu*	*Kaphapittashamak*
Udumbhar	*Ficus glomerata*	*Kashya*	*Guru Ruksha*	*Sheeta*	*Katu*	*Kaphapittashamak*
Palasha	*Ficus lacor*	*Kashya*	*Guru Ruksha*	*Sheeta*	*Katu*	*Kaphapittashamak*
Pareesh	*Thespesiapopulnea*	*Kashya*	*Guru Ruksha*	*Sheeta*	*Katu*	*Kaphapittashamak*
Pipal	*Ficus religiosa*	*Kashya Madhura*	*Guru Ruksha*	*Sheeta*	*Katu*	*Kaphapittashamak*

According to *Rasa*

Kashaya Rasa has *Stambhana*, *Shoshana, Kledahara* properties by virtue of which *Dravata* of *Pitta* and excessive secretion of *Shleshma* and *Kleda* gets pacified. *Kashaya Rasa* is mainly formed by conjugation of *Vayu* and *Prithvi Mahabhuta*. *Vayu* is *Ruksha* in quality and dries up the excessive fluids present in the tissues while *Prithvi* by virtue of *Kathina* and *Sthira Guna* which are opposite to *Drava* and *Sara Guna* reduces the *Srava*. So, *Kashaya Rasa* by virtue of its *Guna* restrains *Srava*[6]*. Tikta Rasa* is a combination of *Vayu* and *Akasha Mahabhuta*. These two *Mahabhuta* having qualities opposite *to Kapha. Tikta Rasa* is having *Kandughna, Kleda*, *Puya* and *Kaphashoshna* pharmacological properties. *Katu Rasa* drugs pacifies *Kapha*, which is the most important *Dosha* responsible for *Yoni Srava* and is *Krimighna*, *Kandughna, Shodhaka, Srotovispharaka, Shothhara* and *Kledaupshoshaka. Katu Rasa* is formed by *Vayu* and *Agni Mahabhuta* having qualities opposite to *Kapha (Prithvi & Jala),* thus, lessens *Srava.*[7] *Madhura Rasa* has *Vata* and *Pita Shamaka* properties and is *Vranaropaka, Prinana, Jeevana* property.[8]

According to *Guna:* *Ruksha Guna* also restrains *Srava* by asset of its *Stambhana* action**.** It may pacify vitiated *Kapha* and *Kleda*[9]. *Laghu Guna,* drug pacifies the *Snigdha* and *Pichchila* properties of vitiated *Kapha* and is *Ropana.*[10]

According to *Veerya:* *Ushna Veerya* pacifies *kapha Dosha* and is *Shooshak.*

According to *Vipaka:* *Katu Vipaka* are *Kapha-shamaka*[11] which is the most important *Dosha* responsible in *Yoni srava*.

So Panchavalkala is one of the ideal combinations for a vast range of therapeutics focused in Ayurveda like *Vranaropana* (Wound healing), *Shothahara*(Anti-inflammatory), *Graahi, Visarpahara, Vedanasthapan* (Pain reliever), *Stambhana* (striping action), *Raktashodhak* (hemostatic), etc *Panchvalkal* i.e., bark of five trees viz. *Vata, Udumbara, Ashwatta, Parisha* and *Plaksha. Panchvalkal has Kashya Rasa* (Astringent properties)[12].

MODERN PHARMACOLOGY

Vata

Ficus bengalensis is a large evergreen fast growing tree upto 30 meter with spreading branches and many aerial roots and found throughout India. It is commonly known as Banyan tree. All the parts of the plant are Acrid, Sweetish, Astringent, Refrigerant anodyne, Dupuative, Anti-inflammatory, Antidiarrhoel, Antiemetic and Tonic[13].The bark, leaves and fruit of Ficus bengalensis are used as Astringent, Haemostatic, Antiseptic, Anti-inflammatory, Antioxidant and Anticancer agent and is considered to be effective in Dysentery, Diabetes, Leucorrhea, Menorrhage, Vaginal disorders, Nervous disorder as tonic and deficient lactation[14].The bark contain leucopelargonidin 3-o-alpha-l rhamnoside and leucocynidin.3-o-alpha-d galactosyl cellobioside, glucoside beta glucoside, pentatriacontan-5-one, beta sitosterol alpha-D glucose[15]. Leucopelargoniin, a glycoside isolated from bark has Antidiabetic effect on alloxan-induced diabetes[16]. Leaves contain CaO, phosphorous, rutin, friedelin, taraxosterol, lupeol, Beta sisterol, bengalenoside and the latex contain Caoytchone, resin, albumin, cerin, sugar and malic acid[17]. Various activities of bengalanesis has been proved like, the ethanolic and petroleum ether extracts showed a greater anti-inflammatory effect

compared with the standard drug Indomethacin[18], Root extract show paralytic and death of Earthworm executes its Anti-helminthic property[19], Anti-diabetic and Ameliorative activity[20], Analgesic and Antipyretic activity[21], Antibacterial activity[22], Anti-oxidant activity[23], and water extract of bark have Hypolipidaemic activity[24].

Udhumbar

Ficus glomerata is commonly known as cluster fig or fig tree. It is an evergreen tree 15- 18 m high, young shoots glabrous, pubescent tree[25]. *Ficus glomerata* extract have reported significant medicinal and pharmacological properties like Antimicrobial, antioxidant activity[26]. All the parts of this plant are medicinally important. The bark is highly efficacious astringent, refrigerant, carminative, stomachic and used as Antiseptic, Antipyretic, Vermicidal, and bark's decoction is used in treatment of various Skin Disease, Ulcers and wounds[27]. It possess various properties like Hepatoprotective[28], Ant diabetic, Anti-inflammatory, Antipyretic, Antitussive, Hypo-glycemic and Antidiuretic[29]. Latex aphrodisiac and administration in Haemorrhages, excessive thirst, Diarrhea, Diabetic boils and vaginal disorders.[30] *Acharaya Charaka* has categorized *Udhumbar* as *Mutrasangrahaniya* (Antidiuretic herb)[31] and *Acharaya Sushruta* as *Bhagna Sandhaniya* (promote healing in fracture).[32]

Plaksha

Ficus Lacor is a large spreading decious fast growing tree. All parts are Acred, pungent, cooling, useful in disease of the blood, Vagina, burning sensations, biliousness, leprosy, Hallucinations, Loss of consciousness. The fruit is Sour, the seeds are useful in Bronchitis, Biliousness, Scabies, Boils, Inflammation. According to API, Fruit and bark is used in syncope, delirium and illusion and unstable state of mind. The stem bark of the plant yield acetate of long chain alcohols, methylricinolate, beta-siterol, lanasterol, caffeia acid, bergenin. The triterpenoids, lupeol and alpha and beta amyrin, Flavinoids like sorbifolin and scutellarein present in leaves[33]. Anti inflammatory[34], Hepatoprotective, Antibacterial, Anti- arthritic, Antidiabetic and used for menstrual disorders, leucorrhea, Estrogenic, erysipelas, ulcer, epistaxis. [35]

Pipal

A Large glabrous usually epiphytic tree, leaves are coriaceous, all the parts are bitter, sweetish, acrid, cooling, useful in disease of the blood, vagina, uterus given in Leucorrhoea, Burning sensation, ulcers. Root is useful in Stomatitis, Gout, and Leucorrhoea to promote granulation. The young bark contain s beta-sitosterycoside, Vitamin-D-glycoside, vitamin K, tannin, saponin, lanosterol, stigmasterol, lupen-3-one. It has astringent, antiseptic, laxative, haemostatic, and is useful in bone fracture, urinary discharges, unhealthy ulcer[36]. The bark is astringent, used in Gonorrhea. The fruit is laxative and helps in digestion. The leaves and young shoots are used as a purgative and an infusion of the bark is given internally in scabies. It has Anti-microbial[37], Hepato-protective[38], Anti diabetic[39], Anti-inflammatory[40], Analgesic[41], Anti-ulcer[42], Anti-oxidant[43], Wound healing properties[44], Anti-parasitic[45], Anti-parkinson's[46] etc.

Pareesh

Thespesia populnea is a fast growing, medium-sized evergreen tree, up to 10 m tall with yellow, cup-shaped flowers having maroon centre and distributed throughout coastal forests of India and also largely grown as a roadside tree. All the parts of the plant used in traditional system of medicine. The bark, leaves, flower and fruits are useful in cutaneous infection such as Scabies, Psoriasis, Eczema, Ringworm, and Guinea worm. The phytochemical study reveals the presence of carbohydrate, protein, tannins, phenol, flavonoids, Terpenes, Saponins like sesquiterpene, ortho-naphthoquinone compound; 3,6,9-Trimethyl- 2,3-dihydrobenzo[*de*]chromene-7,8-dione and new sesquiterpene quinines, thespesenone and dehydro-oxoperezinone-6-methylether[47]. The Ayurvedic Pharmacopoeia of India recommends *Pareesha*in the *Prameha, Raktapitta, Raktavikra, Yoniroga, Daha, Trishna, Vrana, Sotha, Balavisarpa, Pama, Khandu, Dadru, Medoroga[48].* Antimicrobial activity[49], Anti-helminthic[50], Anti-inflammatory[51], Hepato-protective activity[52], Anti-diabetic[53], Antioxidant activity[54], Diuretic [55], Anti-implantation activity[56], Antioxidant activity [57], Memory enhancer [58], Analgesic and Anti-pyretic properties[59], Anti-ulcer activity.[60]

DISCUSSION

Ayurveda, the ancient system of medicine mentioned various types of *Chikitsa* and have unique way of explaining the mode of action drugs. The action of drugs is executed in the body through its pharmacodynamics properties like *Rasa, Guna, Veerya, Vipaka* along with these *Prabhava* is the specific property inherited by the drug which cannot be explained and the principle of treatment in Ayurveda is based *Samprapti Vighatana* which is achieved by relieving *Dosha Dushya Sammurchana*. According *to Acharya Charaka, Srava* is the *Atmalakshan* of *Pitta* and also mentioned that any type of *Yoniroga* does not occur without the involvement of *Vata Dosha*. According to *Acharya Sushruta Puyu* is not possible without vitiation of *Kapha*. In *Yonisrava*, there is *Duargandhya,*

Atidravata and Daha proves the presence of vitiation of *kapha* and *Pitta Dosha.* So *Yonisrava* can be considered as a *Kapha Pitta Pradhan Tridosha vyadhi.* In *Panchvalkal* all the drugs are *Kashya Rasa, Sheeta Veerya, and Katu Vipaka and kaphapittashamak.* In this disease *kapha* is vitiated by its *Snigdha* and *Pichhillaguna* and *Pitta* is vitiated by its *Drava, Ushna* and *Visraguna* and the vitiated *Snigdhaguna* is pacify by the *Ruksha guna* of *Panchvalkal* and *Dravata* of vitiated *Pitta* is pacify by the *Shosanaguna* of Kashya and *Srotoshodhana* property by *Katu rasa* and *Krimiahar* by the *Katu rasa*. *Kashya rasa* have *Stamabhana* property and show static action on discharge and *Katu rasa* have effect on itching. Tannin acts as Anti-inflammatory by inhibiting enzymes such as 5-lipoxygenase & hyaluronidase, inhibit reactive oxygen or nitrogen compounds, modify intracellular signaling pathways in immune cells. Tannins have been reported to have antibacterial potential due to their basic character that allows them to react with proteins to form stable water-soluble compounds, thereby killing bacteria by directly damaging their cell membrane. Various clinical studies have been done on *Panchvalkal* Kasaya in Yonisrava and other inflammatory conditions. Acc. to Dr. K shobhabh at et al. *Panchvalkal churn lepa* has highly significant results in reducing the cardinal signs of*Keetavisha*. Pallvi Hegde et al. show significant results of *Panchvalkal Kwath Prakshalana* in *vicharchika* showing a cleaning as well as healing property and Dr. Dhammananda et al showed Antimicrobial effect of *Panchvalkal* powder. Many more studies are there like Sakhitha et al., Vyas Palak et al., Kamini Dhiman et al., Pratimachakrawarty et al. etc. showing the significant results of *Panchvalkal*.

CONCLUSION

According to modern science microorganism are the prime reason for manifestation of disease and *Panchvalkal* have Antimicrobial Activity due to presence of Tannin, Saponin, Flavinoids, Terpenoids etc. In Ayurveda, equilibrium of *Dosha* is the main aim of treatment of disease. So in this disease *Kaphapitta shamak, Shothahara* as well as *Krimihara Dravya* will be beneficial for the treatment. So it is considered to be a safe herbal medicine without any adverse effects. From above review we can conclude that the *Panchvalkal* have a wide range of medicinal value like Antimicrobial, Anti-inflammatory, Anti-septic, wound purifying and healing etc. and importance natural product to control Antibiotic Resistance bacteria which are a threat to human health.

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