

MANAGEMENT OF DYSENTERY BY AYURVEDIC REMEDIES**W.S.R.PRAVAHIKA****Khatale Vaishali Laxman¹,****Chothe D.S2.****Shende M. B.³**^{1,2,3} PG Department of Dravya Guna Govt. Ayurved College, Nanded, Maharashtra, India**ABSTRACT**

Dysentery is a common but potentially serious disease of digestive system that occurs throughout the world. Morbidity and mortality due the Dysentery is major problem especially more in children. There are some 42 million cases annually and an estimated 75,000 deaths across the globe due to amoebic dysentery alone. It can be caused by a number of infectious agents ranging from viruses and bacteria to protozoa and parasitic worms. In this article we will consider Dysentery as *Pravahika*. In this disease vomiting, watery diarrhea may result in rapid and severe dehydration, which may lead to shock and death if not treated. Many medicinal plants are reported in Ayurveda that provides as whole protection against dysentery naturally without any side effects and gradually helps to recover. Here we have reviewed some Ayurvedic remedies for management of Dysentery.

Keywords: *Dysentery, etiological factors, Pravahika, complications, Ayurvedic remedies.*

INTRODUCTION

Dysentery is one of the oldest known gastrointestinal disorders, having been described as early as the peloponneslam war in the fifth century. Dysentery is a common but potentially serious disorder of the digestive system which results in major complications if it is not treated. Dysentery can have number of causes such as bacterial, protozoa, viral infections. Bacillary dysentery is type of dysentery which is also called shigellosis. Shigellosis is caused by one of several types of bacteria's such as *Shigella sonnei*, *Shigella flexneri*, *Shigella dysenteriae*, *E.coli*, *Yersinia* etc. Bacillary dysentery is spread via contaminated food or water and is an extremely contagious, dangerous bacterial infection of the colon. Amoebic dysentery is also known as intestinal amoebiasis which is mainly caused by parasite, *Entamoeba his-*

tolytica. This parasite usually enters the body during the cyst stage of its life cycle. The cyst may be found in food or water contaminated by human feces. Once the digestive tract, the cyst break down, releasing an active form of the organism called Trophozoite. The trophozoites invade the tissues lining the intestine, where they are usually excreted in the patient's feces. They sometimes penetrate the lining itself, however and enter the bloodstream. If that happens, the trophozoites may be carried to the liver, lung, other organs. Involvement of the liver or other organs is sometimes called metastatic amoebiasis. The amoeba can exist for long periods of time in the large bowel (colon). Other causes of dysentery viruses which is also called gastroenteritis and it including rotaviruses, calciviruses, astroviruses and adenoviruses etc. Dysentery

caused by parasitic worms like whipworm (Trichuriasis) and flatworm or fluke (Schistosomiasis) may produce the abdominal cramps associated with dysentery.

In this article we will consider dysentery as *pravahika*. When *VataDosha* gets increased and associating with *Kapha* produces the disease called “*Pravahika*”. It is mainly caused by a genetic *khavaigunya* in the digestive tract along with dietary and lifestyle factors, notably a high fat diet and smoking. According to the Ayurveda, *pravahika* is characterized by *bahusam* (frequency), *alpalapam* (small quantity), *sashulam* (with pain), *sappravahikam* (straining i.e. a very intense urge again caused by the irritant effect of mucus), *saraktam* (blood in stool), *sapicham* (jelly-like mucus), *upveshyte* (urgency of defecation). [1] *Vataj pravahika* is characterised by frequent defaecation with pain, *Pittajpravahika* with burning sensation and *kaphajpravahika* characterised by mucus in stools which is seen common in amoebic dysentery and *Raktaj pravahika* with blood in stools. Dysentery may lead in to the shock and death if not treated. People with amoebic dysentery may experience other problems like amoebic abscess, High fever, the intestinal ulcerations may lead to bowel perforation and death.

MANAGEMENT OF DYSENTERY BY AYURVEDIC REMEDIES:

Treatment of *pravahika* is carefully described both Sushruta and Vagbhata. There are medicinal plants can be used both rectally and orally in this disease.

***Alstonia scholaris* (*Saptaparn*)**

The bark of *Alstonia scholaris* is very useful in dysentery. It contains more alkaloids including reserpine, echitamine, alstonine and others. The bark is used as astringent, tonic, alternative. It is *Tikta* (bitter) and *Ka-*

shaya (astringent) in *Rasa* (taste) and light (*laghu*), *snigdha* in characteristics (*Guna*). It helps to alleviate *Kapha* and *VataDosha* and acts as an appetizer (*Dipana*). To evaluate the antibacterial activities, *Alstonia scholaris* (R.br.) chloroform extracts were screened against twelve human pathogenic bacteria by disc diffusion method. In that research study the chloroform extract was found very active against *Shigella dysenteriae* (14mm) and *Shigella boydii* (13mm). [2] Khan et al (16) also reported that antibacterial activity of the butanol fractions of crude methanolic extract of leaves, stem root, bark of *Alstonia scholaris*. [3]

***Holarrhena antidysenterica* (*Kutaj*)**

The efficacy of *H. antidysenterica* in chronic and amoebic dysentery has been established. The bark is astringent, antidiarrhoeic, stomachic, febrifugal, tonic properties. The principle alkaloid of *Kurchi* is conessine. The other alkaloids reported to be present in the *Kurchi* bark are: conamine, conkurchine, connessimine, kurchine, conarrhine, holarrhine and isoconessimine. Conessine from the bark kills free-living amoebae and also kills *Entamoeba histolytica* in the dysenteric stools of experimentally infected kittens. It is markedly lethal to the flagellate protozoan. Various fractions of *H. antidysenterica* showed promising activity against experimental amoebiasis in rats and hamsters. [4] Aqueous and alcoholic extracts of stem bark of *Holarrhena antidysenterica* was observed by some researchers at concentration of 200, 300, 400, mg/ml against the enteric pathogens like *Shigella flexneri*, *S. boydii*, *S. aureus*, in punch well and agar dilution methods along with viable cell count were carried out and in this study best inhibitory effect was demonstrated at concentration of 200 mg/ml of agar. [5]

***Aegle marmelos* (*Bilva*)**

The fruit of *Aegle marmelos* have little effect in acute Dysentery when there is definite sensation to defecate without the significant amount of faeces, blood and mucus alone are passed. This herb is high in tannin, which is effective in treating dysentery. It is digestive and helps to alleviate *Vata Dosha*. The fruit powder is specially used in sub-acute or chronic dysentery so that blood with stool gradually disappears and the stools resume a more feculent and solid form.[6] In the *in vitro* study performed by MIC method ethanolic extract of dried fruit pulps showed significant activity against the causative factors of dysentery such as *Shigella boydii*, *Shigella sonnei* and *S. flexneri*, moderate against *S. dysenteriae*. [7] In the bacillary dysentery sweet drink made from the pulp of the *Aegle marmelos* fruit produce soothing effect in patient's body. [8] Its use has also been reported in the cases of amoebic dysentery. [9]

Semicarpus anacardium (Bhallataka)

Semicarpus anacardium acts as an appetizer (*Dipan*) and *Pachan* due to its *Ushna* (hot), *Tikshna Guna* (properties) and *Katu-Rasa*, but it is contraindicated in *Raktajpravahika*. It helps to alleviate *Kapha* in the body. Mohata et al. was found the petroleum ether and aqueous extract fractions of *Semicarpus anacardium* by disc diffusion method showed inhibitory activity against *Staphylococcus aureus* (10mm) and *Shigella flexneri* (16mm) at 100mg/ml concentration. [10] Subsequent studies have shown that the alcoholic extract of different parts of *Semicarpus anacardium* also possess activity against the bacteria causes for dysentery, especially the leaf extract. [11]

Salmalia malabarica (Shalmali)

The ancient authors used the leaves, flowers, gum (*Mocharasa*) of *Salmalia malabarica* in preparation of *Picchabasti* for allevi-

ation of *Kapha*. (*Cha. Chi. 19/117*). The *Salmalia malabarica* bark juice was mixed with the bark juice of mango and guava drunk to cure dysentery and intestinal spasm. [12]

Ocimum sanctum (Tulsi)

Ocimum sanctum is considered to be the queen of herbs due to its greater medicinal value. It possesses the wound healing property of large intestine. *Ocimum sanctum* is considered to be the queen of herbs due to its greater medicinal value. It contains essential oil, eugenol, carvacol, methyl eugenol, coryphylene which are mainly responsible for antibacterial activity against *Escherichia coli*, *salmonella typhi*, *Shigella dysenteriae* within specified contact time. [13]

Acacia nilotica willd (Babul)

Acacia nilotica It is an important multipurpose tree. Its stem-bark is demulcent, astringent used in dysentery, diarrhea and Gum used in amoebic dysentery. B. mahesh found the antimicrobial activity of the extract of *Acacia nilotica* against the causative bacteria of dysentery such as *Shigella sonnei*, *Bacillus subtilis*. [14]

Terminalia chebula (Haritaki)

Terminalia chebula is very useful in digestive system disorders. It is mainly astringent in taste and all tastes except salty and *Laghu* (light), *Ruksha* (dry). Due to which it increases the digestive fire and clears undigested residues (*Ama*) and mitigate *Vata*. *Haritaki* is an effective purgative when taken in powder, but when the whole dried fruit is boiled the resulting decoction is *grahi*, useful in the treatment of dysentery. It promotes good colon health and acts as laxative without causing cramp or irritation. It gently stimulates the intestinal wall and restores tone to the colon, thus helping in the elimination process and providing a colon cleansing effect. To evaluate anti-amoebic

activity of crude drug of *Terminalia chebula* was investigated in experimental caecal amoebiasis rat model with curative rate of 89% at 500 mg/kg body weight due varying degrees of inhibition of enzyme activities such as DNase, RNase, aldolase, alkaline phosphatase, acid phosphatases protease in axenically cultured amoebia.[15] In some studies Ethanol extract of *Terminalia chebula* fruit was found effective against both Gram positive and Gram negative bacteria.[16]

Triphala Powder

Triphala is a widely prescribed *Ayurvedic* drug and is used in the ailment of all *Doshas*. *Triphala* is composed of the three fruits namely *Haritaki* (*Terminalia chebula*), *Bibhitaki* (*Terminalia bellirica*), *Amalaki* (*Embllica officinalis*). *Triphala* corrects constipation, cleanness and tones the gastrointestinal tract. It detoxifies the whole body and improves digestion and assimilation. Srikumar et al. demonstrated the antibacterial effect of aqueous and ethanol extracts of *Triphala* powder and its individual components against *Shigella sonnei*, *Shigella flexneri*, *Staphylococcus aureus*. [17]

Tinospora cordifolia (Guduchi)

Tinospora cordifolia is also very useful in the treatment of chronic diarrhea and dysentery. [18]

Acorus calamus (Vacha)

Acorus calamus is the sweet and aromatic rhizomes of sweet flag, growing in marshy places. Calamene is a crystalline alkaloid in the rhizome useful in dysentery. *Acorus calamus* is also used for treating indigestion and as appetite stimulant. It gives relief to heavy stomach by relieving flatulence, colic and increasing appetite. For chronic dysentery, the root infusion can help effectively. The leaf and rhizome part of *Acorus calamus* was found to possess the antibacterial

effect. The methanolic extract of *Acorus calamus* showed the inhibitory effect against the bacterial strains which are causative factors of dysentery. [19]

RESULT AND OBSERVATIONS

Above studies observe that many of the *Ayurvedic* medicinal plants possess antibacterial and anti-amoebic activity and they gradually help to recover from dysentery. The most of plants are *Katu-Tikta-kashaya Rasatmak* which is very useful for *Dipan* (Correcting *Agni*/ digestive fire), eliminating *Ama* (toxins) from the body and balancing the *Doshas*.

DISCUSSION AND CONCLUSION

The results of research article strongly indicate that number of medicinal plants are reported in *Ayurveda* that provides as whole protection against dysentery naturally without any side effects. According to the *Guna, Karma* of these medicinal plants, it is seen that they will be used in *Vata* and *Kapha Dosh* *pradhan samprapti* of *Pravahika*. Clinical trials using these herbs for a variety of conditions should also be conducted.

REFERENCES:

- 1] Shrikantha Murthy KR tr. *Madhava Nidanam*, *chaukhamba orientalia*, Varanasi chapter 3v, 21-22.
- 2] Pharmacological Investigation of the chloroform extracts of *Alstonia scholaris* (L.) R.Br. *Journal of pharmaceutical and scientific innovation* DOI:10.7897/2277-4572.03198, 2014.
- 3] M.R. Khan, A.D. Omolosa and M. Kihara. Antibacterial activity of *Alstonia scholaris* and *leatetramera*. *Fitoterapia* 74 (7-8): 736-40 (2003).
- 4] Dutta, N. k. and Iyer, S. N., *J. Ind. Med. Assoc.*, 1968, 50, 349.
- 5] M. Ballal, D. Srajan, K.K. Bhat, A. Shirwaikar, P.G. Shivananda. Antibacte-

rialactivity of Holarrhenaantidysenterica (Kurchi) against the enteric pathogens.

6] Lamba Bv and Bhargava kp, Activity of some synthetic and natural products against experimental, Ankylostomiasis, Indian j pharmacology, 1969, 1.

8] P.V.Joshi, R.H.Patil, V.L.Maheshwari, Natural product Radiance, 2009, 498-502.

8] [http:// www.Indiamart.Com/ company/1753104/ products.html/](http://www.Indiamart.Com/company/1753104/products.html/) Accessed on 30.11.10.

9] Gaur RD and Tiwan JK, Indigenous medicinal plants of Garhwal Himalaya (India): An ethanobotanical study, In: medicinal and poisonous plant of tropics, AJM Lee uwenberg (Ed), International Book Distributers, Dehra dun, 1988,139-143.

10] Mohata TK,Patra JK, Rath S K, Pal Ok, Thatoi HN. Evolution of antimicrobial activity and phytochemical screening of oils and nuts of Semecarpusanacardium. Sci.Res essay. 2007,2:486-90.

11] Nair A, Bhide S V. Antimicrobial properties of different parts of Semicarpus anacardium. IndianDrugs.1996; 33 323-328.

12] Ghimire k, Bastakoti RR. Ethnomedicinal knowledge and health care practices among the central Nepal. FEM 2009;257: 2006-2072.

13] Sadgir parag, Nilosey vijyayshree, Bhandari Ranu and Patil BR. Research journal of chemistry and environment, 2010; 14 (3): 46-50.

14] B. Mahesh, S. Satish 12, Antimicrobial activity of some important Medicinal plant and Human pathogens, world Agric. Sci.2008; 4 (s): 839-843.

15] Sohni (R), Kaimalp p, Bhatt RM. The antiamoebic effect of a crude drug formulation of herbal extracts against Entamoeba histolytica in vitro and in vivo. Jethana pharmacological 1995; 45(1); 43-52.

16] Kannan p, Ramadevi SR, Hopper w. Antibacterial activity of Terminalia chebula fruit extract. Africans Microbiol, Res 2009; 3(4): 180-84.

17] Shrikumar R, parthasarathy NJ, Shankar EM, Manikandan s, Vijayakumar R, Thangaras R, et al. evaluation of the growth inhibitory activities of Triphala against common bacterial isolates from HIV infected patients. Phytother. Res 2007; 21: 476-80. [http:// dx.det.org// 10.1002/ ptr.2105](http://dx.det.org//10.1002/ptr.2105), P Mid: 17273983.

18] Shah GL. Some economically important plant of salsette Island near Bombay, J Ecom tax, Bot.5(1984)753, Gujarat, J Econ Tax Bit.1984;7:573.

19] R. Pokharel, B.R. Dhungana, K.B.Tiwari and R.B.Tiwari and R.B.Shahi, Antibacterial activities of some indigenous medicinal plants of Nepal

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