

A Critical Review On *Balatisara* (Childhood Diarrhea) : Disease Or Symptom

***Dr. Laxmi, ** Dr. Omendra pal singh**

**Asst. Prof. PG Dept. of Kaumarabhritya, State Ayurvedic College and Hospital, Lucknow (U.P.)*

***AMO, Ayush Services, Uttar Pradesh*

Abstract

Diarrhea is a common disorder among children especially below 12 years of age. Diarrheal disease is the second leading cause of death in children under the age of 5 years, and is responsible for killing around 5,25,000 children every year (WHO May 2017). Majority cases of childhood diarrhea are of non-bacterial origin. Ayurveda plays important role by balancing body elements (Dosha,Dhatu,Mala) in natural way to cure disease. Herbs have constitutional effects based upon their taste (Rasa) , Potency (Virya) and Post digestive effect (Vipaka) as well as there are some specific effects of plant itself (Prabhava). By using medicinal plants as medicine, we can save children from bad effects of antibiotics.

Keywords- *Balatisara, antibiotics, Medicinal Herbs, Childhood diarrhe*

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I. INTRODUCTION

Diarrheal disorders account for a large proportion approximately 18% of childhood death, with an estimated 1.5 million deaths per year globally, making it the second most common cause of child deaths worldwide¹. According to UNICEF over half of the deaths occur in just 5 countries: India, Nigeria, Afghanistan, Pakistan and Ethiopia. WHO and UNICEF estimate that almost 2.5 billion episodes of diarrhea occur annually in children <5 years of age in developing countries². In 2012, it was the second most common cause of deaths in children younger than five. Diarrhea is also a major contributory factor in childhood malnutrition³. It not only affects health of children but also considered responsible for infant mortality especially in tropical and sub-tropical countries. WHO estimates that between 90,000 and 1, 53,000 children die from rotavirus infection in India each year.

Majority cases of childhood diarrhea are of non-bacterial origin. Recommendation of antibiotic use even in bacterial GIT infection remains limited to invasive type only. Antibiotics are used unethically in majority of diarrhoeal cases in children. In viral diarrhea if antibiotics are used it worsens the condition and child may get severely dehydrated. It is important to quote that frequent use of antibiotic is not only hazardous for child's intestinal healthy flora but also causes drug resistance to causative pathogen.

Ayurvedic medicines are found very effective for diarrhea cases in our clinical practice. But this has to be proven on research criteria. In traditional systems of medicine (Ayurveda) many anti-diarrheal medicines are available which offer more advanced therapeutic strategies and good level of support. Ayurveda uses the inherent power of natural herbs to improve the body metabolism and digestive disorders. Here Ayurveda plays important role by balancing body elements (*Dosha, Dhatu, Mala*) in natural way to cure disease. Herbs have constitutional effects based upon their taste (*Rasa*) , Potency (*Virya*) and Post digestive effect (*Vipaka*) as well as there are some specific effects of plant itself (*Prabhava*). By using medicinal plants as medicine, we can save children from adverse effects of antibiotics.

DIARRHOEA

Frequent passage of watery stools, an increase in frequency, of stool through increased bowel movements relative to usual habit of each individual or an increase in frequency and fluidity of stool so that stool take the shape of container . One other definition of diarrhea is an alteration in a normal bowel movement characterized by an increase in the water content, volume or frequency of stool. Definition of diarrhea according to WHO⁴:

Diarrhea is defined as the passage of three or more loose or liquid stools or more frequent passage than is normal for that individual (Consistency of stool is more important than frequency). It's not diarrhea according to WHO: Frequent passing of formed stools, passing of loose, "pasty" stools by breastfed babies, passage of stool during or immediately after feeding due to gastro colic reflex, Irritable Bowel Syndrome and passage of frequently loose greenish yellow stools on the 3rd and 4th day of life called as transition stools.

Causes of diarrhea⁵: Some causative factors of diarrhea are-

Parasites and worms, lactose intolerance due to the absence of lactase enzyme which is essential for metabolizing the lactose, the absence of lactase in infant may cause diarrhea, intestinal diseases and bowel disorders (bacterial and viral infection), allergy to certain food items, adverse effects of antibiotics and other medications, unhygienic conditions e.g. overcrowding, lack of clean drinking water, trend towards the bottle feeding rather than breastfeeding.

ATISARA (DIARRHOEA)

Dalhana in his commentary on *Sushruta Samhita* stated that passing of watery stool in increased quantity is a characteristic feature of *atisara*. *Vijayrakshita* in *madhukosh vyakhya on madhav nidaan* defined *atisara* as excessive passage of liquid through anus.

BALATISARA (CHILDHOOD DIARRHOEA)

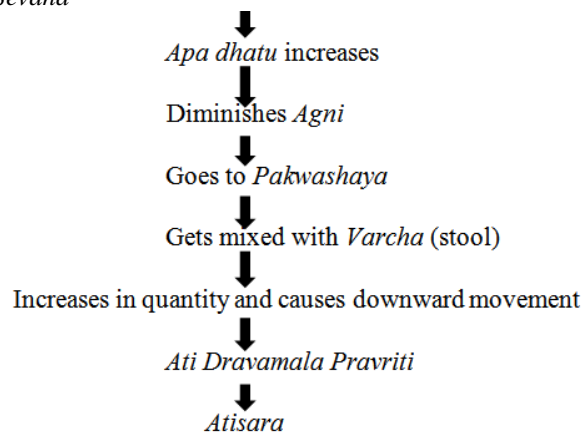
The term *Balatisara* is found at first in *Harita Samhita⁶* in context of treatment. The term *balatisara*, literally means *atisara* occurring in children but it has not been mentioned as a separate entity in *brihatrayi*. Though several scattered references of term *balatisara* are found in context of treatment of *atisara* in children in *laghutrayi*.

Atisara (diarrhoea) has been dealt in much detail in *ayurvedic* literature, but not in term of children *specifically*. The detailed description of *Atisara* in children is not explained in *Ayurveda*. However, in *Kaumarabhritya* certain specific disorder in which diarrhoea is major symptom have been mentioned in *ayurvedic* literature. *Atisara* is described as a symptoms in many diseases like *dantodbhedjanyatisara*, *ksheeralasaka*, *vyadhijfakka*, *revati*, *putna* etc. *balaagraha*. Even though separate description of *balatisara* as a disease is not found in scriptures, but specific treatment remedies are available there specially for *Balatisara* (diarrhea in children). The *samprapti* of *atisara* may be the same for both in adult and children but they differ in terms of some added etiological factors (like *dantodbheda*, *balagrahas*, *ksheeralasaka* etc.) and increased morbidity and mortality. The word “*krimi*” is an important factor for the *atisara*, in children considered by *Acharya Charaka* and *Sushruta*. These added etiological factors which differentiates *balatisara* from *atisara* are restricted to the infancy period only. Dention diarrhea, lactose intolerance diarrhea, rotavirus diarrhea etc. are some examples of diarrhea which occurs in infancy period only. *Samprapti* for rest of *atisara* occurring in childhood period is same for both in adult and children.

Nidana (Causes of Diarrhoea)

Acharya sushruta mentioned common *nidana* for all type of *atisaar⁷*. Intake of *guru*, *atisnigdha*, *atiruksha*, *atiushna*, *atidravya*, *atisheeta* food items. Intake of incompatible food items. Taking of food in *ajirna*, *adhyashna*, *vishmashana*. Drinking of contaminated water or excessive water intake. Taking of excessive alcohol, Suppression of natural urges, Suffering from “*krimi*”. Excessive or inappropriate use of *Panchkarma*. Urge of fear or shock i.e. psychological factors. Food intake without taking season into consideration, *Graha* (Infections).

Samprapti Chakra⁸ Nidana Sevana



Samprapti Ghataka

Dosha – Vata pradhana tridosha

Dushya – Rasa, rakta, mansa, meda, mutra, purisha

Adhishthana- mahastrotasa

*Srotasa- Annavaaha, purishavaha, udakvaha
Strotodushti-Atipravriti, vimarga gamana*

Etiopathogenesis of Atisara based on *samanyasamprapti*

After analysing *samanyasamprapti* of *atisara* according to different *acharyas*, we can understand that *asatmyaaharavihara* causes *mandagni* which leads *dhatvagnimandta*. An increase in *jaliyagundharmisharirikdhatumootra*, *sweda* etc. occur due to *mandadhatvagni*. These are normally formed when *jatharaagni* and *dhatvagni* are in normal state. Formation of *mootra*, *sweda* etc. gets disturbed in *mandagni* state, followed by excessive fluid secretion into lumen of intestine. Vitiated *vata* drags this excessive water content (*jaleeyansh*) down into large intestine (*pakwashay*) where it gets mixed with stool and causes downward movement of watery stool called as *atisara*.

Three important factors which are responsible for pathogenesis of *atisara* emerged out from above discussion on *samanyasamprapti*, these are: *mandagni* (*tryodashvidhaagni*), *jaliyanshprachurta* and *vatavikriti*.

Types of Atisara

According to Acharya Sushruta⁹, there are broadly 6 types of *atisara* –*Vataja*, *Pitajja*, *Kaphaja*, *Sannipataja*, *Shokaja* and *Amajaatisara*. *Bhayaja atisara* told by Acharya Charaka and *Vagbhata*¹⁰, in place of *Amaja atisara*, is included in *Vataja atisara*. *Rakta atisara* is included in *pittaja atisara*. Acharya Charaka has included *Amaja atisara* in *Sannipataja atisara*.

*Madhav nidana*¹¹ mentioned 7 types of *atisara*, 6 types told by Acharya Sushruta and one *raktaja*. Acharya Sharangdhar¹² also mentioned 7 types of *atisara*, 6 types told by Acharya Sushruta and one *bhayaja*. Acharya *bhaishajyaratnavali*¹³ mentioned 8 types of *atisara*, 7 types told by Acharya Sharangdhar and one *jwaraja*. *Harita Samhita*¹⁴ mentioned only one type as *hwara atisara*. Acharya Charaka¹⁵ mentioned 36 types of *atisara* in *sidhithana*.

Poorvaroop (prodromal symptoms)

Pricking type sensation in *hridaya*, *nabhi*, *payu*, *udar* and *kukshi Pradesh*, *Gatraavasada* (General malaise), *Vitsanga* (Constipation), *Anilsannirodha* (non-elimination of *vata*), *Adhman* (Abdominal distension), *Avipaka* (Indigestion)¹⁶.

Roop (Symptoms)

Discoloration of body, Uneasiness in mouth, Fatigue, Insomnia, Absence of functions of *Vaayu* (flatus)¹⁷.

Vishista lakshana (sign and symptoms)

Following sign and symptoms mentioned in *MadhavNidana*¹⁸

Vataja atisara: Passing of blackish, frothy, rough, *Ama* and small amount of stool, abdominal pain during passing of stool.

Pittaja atisara: Passing of yellowish, greenish, blackish, foul smell stool with burning sensation frequently, thirst, sweating, fainting.

Kaphaja atisara: Passing of unctuous, white, slimy, thready and heavy foul smell stool with mucus. Horripilation, nausea and tenesmus.

Sannipataja atisara: Passing of stool (yellow, green, bluish or reddish in color, fatty in texture), passing of stool with or without pain. Symptoms of all three types of *Atisara* are present in this type and it is difficult to cure.

Shokaja atisara: According to Acharya Charaka¹⁹ and *Vagbhata*, its signs and symptoms are similar to *Vataja atisara*.

Aamaja atisara: Passing of stool frequently of various colors, abdominal pain are the main features of *amajaatisara*.²⁰

Mala pariksha (Examination of Stool):²¹

Pariksha mainly include *srotopariksha* and *malapariksha*.

Srotopariksha: The dominant *Srotas* involved in *atisara* is *pureeshavahasrotas*. Its *dushti* symptom is *krichrenaalpalpam*, *sasabda*, *sashoolam*, *athidravam*, *atigrathitham*, *atibahu*.

Malapareeksha: It plays a vital role in detecting abnormal constituents such as *ama*, *rakta*, *kapha*, *krimi*, and *puya*, etc. in stool, assists in differentiating *ama mala* and *pakwa mala*. According to Acharya Chakradutta and *Ashtanga Sangraha*, stool is in *ama awastha*, if it sinks in water whereas *nirama* if floats in water except in condition of excess liquidity, compactness, coldness and presence of mucus. The *ama* stool has foul smell with painful flatulence, Distressing constipation and abnormal salivation. *Nirama mala* will be free from these associated symptoms.

Ayurvedic Perspective of Dehydration

Severe *pipasa lakshana* mentioned in *kashyap Samhita* can be considered as the symptomatology correlated to the signs of dehydration in Ayurveda. These are: Dryness of palate, lips, tongue and throat, unable to perceive by eyes and ears, lethargy, altered sensorium and orientation, no appetite, general weakness, protruding tongue.

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TREATMENT-

The basic treatment of *Atisara* is same as that of adults. First assessment should be done whether the stool is *saam* or *nirama*. If stool is in *Saam* condition, *langhana* is advised. But too much *langhana* therapy is not advocated. If stool is *nirama*, *Sangrahana* therapy (bowel-binding therapies) should be adopted. It must not be stopped by constipative medicine. If the diarrhea is associated with gripping pain (difficulty in voiding), then *Haritaki* is given as mild laxative. If the doshas are moderately aggravated, then *Pramathya* having *Deepan* and *Pachana* properties should be given. If the doshas are only slightly aggravated, then *langhana* is very useful. Exogenous Diarrhea that is *Bhayaja* and *Shokaja* should be treated by *vayu* alleviating drugs and therapies. The patient suffering from diarrhea caused by fear is exhilarated and the patient suffering from diarrhea caused by *shoka* is consoled. In hemorrhagic diarrhea, goat milk is very useful along with boiled rice of red variety of *Shali*.²³

Treatment of *amatisar* is *amapachan* first, while in *pakwatisar stambhan* is the first line of treatment. In case of children applicability of classical *amapachan* treatment i.e *langhan*, use of drugs having *katu*, *ushna*, *tikshna*, properties is not feasible because children are delicate in nature and tissues (*dhatu*) are not properly developed. The disease becomes severe very quickly in children. So here we can't wait for the duration from *amavastha* to *niramavastha*. In present scenario there is a need of an *ayurvedic* formulation that can be beneficial in both stages of diarrhoea either *amavastha* or *pakkvavastha* or we can say in acute and chronic type of diarrhea in children. In *ayurvedic* classics like *sharangdhar*, *yogratnakar*, *vangsen* and *chakradatta* there are references of such formulations, which are specially mentioned for the childhood diarrhoea (*balatisara*).

Pathyapathya (Do's and Don'ts):

Pathya : Fruits, cereals, hot water are considered as *pathya*. According to *Yogaratnakara*, sleep, *langhana*, goat milk, cow milk, ghee, butter extracted from goat or cow milk, curd, buttermilk are considered as *pathya*. Diet should be restricted to light food like soup of *Mudga siddha* with *Shunthi*, *kanji*, *yavagu*, *tarpana*, etc.

Apathya : In *Kashyapa Samhita*, intake of garlic, unctuous substance, meat soup and sudation are considered as *apathya*. According to *Yogaratnakara*, waking during night, heavy foods and drink are considered as *apathya*.

II. DISCUSSION

Factors which are responsible for pathogenesis of *atisara* emerged out from above discussion are: *mandagni* (*tryodashvidhaagni*), *jaliyanshrachurta* and *vatavikriti*.

Thus we need a combination of ingredients which acts on all the pathological factors of *atisara* in children. Treatment of *amatisar* is *amapachan* first, while in *pakwatisar stambhan* is the first line of treatment. In case of children applicability of classical *amapachan* treatment i.e *langhan*, use of drugs having *katu*, *ushna*, *tikshna*, properties is not feasible because children are delicate in nature. While explaining the common treatment principle in children *aacharyacharak* told that we should not use drug that have properties like *katu*, *tikshna*, *ushna* in children. Also because of delicate body and less development of tissues, the disease becomes severe very quickly in children. So here we can't wait for the duration from *amavastha* to *niramavastha*. In present scenario there is a need of an formulation that can be beneficial in both stages of diarrhoea either *amavastha* or *pakkvavastha*. In *ayurvedic* classics like *sharangdhar*, *yogratnakar*, *vangsen* and *chakradatta* there are references of such formulations, which are specially mentioned for the childhood diarrhoea (*balatisara*).

III. CONCLUSION

After analysing many literature we come to the conclusion that in *kaumarabhritya* literatures *Atisara* is described as a symptoms in many diseases like *dantoddbhedjanyatisara*, *ksheeralasaka*, *vyadhijfakka*, *revati*, *putna* etc. *balaagraha*.

Even though separate description of *balatisara* as a disease is not found in scriptures ,but specific treatment remedies are available there specially for *Balatisara* (diarrhea in children). No acharya have said to follow *langhan* incase of children or treat them according to *amatisara* or *pakkwatisara*. In classics, also our *acharyas* have mentioned single remedy for *balatisara*, not on the basis of *dosha* dominancy or stages of

balaatisara.. By all above analysis we can easily understand that combination of ingredients that are having *deepan, pachan, grahi* and *stambhan* properties would be beneficial in childhood diarrhoea.

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