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## A Comprehensive Review On Atisara (Diarrhea) And Its Management In The Pediatric Age Group.

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### Abstract:

Atisara, or diarrhea, is one of the most common and potentially serious health concerns affecting infants and young children worldwide, contributing significantly to pediatric morbidity and mortality. In Ayurveda, this condition is classified under Atisara, a disorder of aggravated Doshas leading to excessive and frequent passage of liquid stools. Atisara is classified as a disease caused by derangement of agni (digestive fire), Doshas (especially vata), and improper dietary practices. In modern medicine, pediatric diarrhoea is often viral in origin but may also be caused by bacteria, parasites or food intolerance. This article reviews the Ayurvedic understanding of Atisara, its clinical features, modern correlations, and the integrated approach to its management in children.

**Keywords:** Atisara, Atisara, Infantile Diarrhea, Ayurveda, Grahi, Agnimandya, Pediatric Care.

**Introduction:**

सामं शकुन्निरामं वा जीर्णं येनातिसार्यते ।

सोतिसारोतिसरणादाशुकारी स्वभावतः ॥ -अ.ह.नि.८/१३

Diarrhea remains a major public health issue, particularly among infants and children. In developing countries like India, factors such as poor sanitation, unclean drinking water, and lack of awareness about infant nutrition exacerbate the prevalence of diarrhea. The condition, when not managed properly, leads to dehydration, electrolyte imbalance, and in severe cases, death. In Ayurved, Acharya Vagbhata defines Atisara as excessive evacuation of watery stools, more than three times in a day, whether it is mixed with ama or not, passed even after proper digestion. Frequent passage of formed stools is not diarrhea. In Ayurveda, it is described as a condition caused by Agni dushti and vitiation of doshas, particularly vata and kapha. While adult Atisara is discussed in considerable detail in Ayurvedic texts, the pediatric counterpart, Atisara, is less elaborated and often requires careful interpretation of scattered references. This review aims to integrate these references to provide a comprehensive understanding of the disease. As atisara is a significant cause of morbidity and mortality globally; understanding the clinical features and timely management from both Ayurvedic and modern perspectives is crucial in reducing complications like dehydration and malnutrition.

**Etiology :****Ayurvedic perspective :**

Nidana(causative factors) :

- Ajirna (Indigestion)
- Dushita jal sevan (Intake of contaminated water)
- Viruddha ahar (Incompatible food)
- Grahita (Infection due to krimi)
- Ama formation (Toxic metabolic byproducts)

**Modern medicine :**

Infectious causes :

- Viruses : Rotavirus(most common), Norovirus, Adenovirus
- Bacteria : E.coli, shigella, Salmonella, Campylobacter
- Parasites : Giardia, Entamoeba histolytica

Non-infectious causes :

- Food intolerance(e.g. lactose)
- Antibiotic associated diarrhoea
- Inflammatory bowel disease(rare in children)

**Epidemiology :** Diarrhea is the leading cause of under-five mortality in many countries with higher prevalence in low socioeconomic status, Poor sanitation and unsafe drinking water, malnourished children. WHO estimates around 1.7 billion cases of pediatric diarrhea annually.

**Mythological origin of Diarrhea :** Initially animal sacrificing were not practiced in yadnya. Later on King Prasadhra started sacrificing animals in yadnya, even bulls and cows. After observing this and

the meat of the sacrificed bulls and cows proved to be too heavy, too hot and harmful too. Thus loss of power of digestion and disturbance in mental equilibrium leads to genesis of atisara vyadhi.

### Samprapti Ghatak :

Dosha – Vatapradhan tridosha.

Dushya- Rasa, Rakta, Mamsa, Meda, Mutra, Purisha.

Adhisthan- Mahastrotas.

Strotas- Annavaha, Purishvaha, Udakavaha.

Strotodushti – Atipravrutti, Vimargagaman.

### Pathophysiology:

Diarrhea results from altered intestinal absorption and secretion. Infections damage the intestinal epithelium, impair nutrient absorption, and increase fluid secretion into the lumen, causing watery stools. In Ayurveda, Agnimandya leads to Ama formation, which further disturbs the balance of Doshas and causes Atisara.

### 2. Ayurvedic Perspective on Atisara:

Atisara is defined in Ayurveda as "mala atisarana adhikena pramanaena" – an abnormal increase in frequency and liquidity of stools. The pathogenesis of Atisara involves Mandagni (weak digestive fire), accumulation of Ama (toxic undigested substances), and vitiation of Doshas, primarily Vata and Kapha. The disease mainly affects the Annavaha, Purishavaha, and Udakavaha srotas (channels of food, stool, and water, respectively).

### Classification:

- Vataja Atisara: Dryness, pain, and mucus-less, blackish stools, abdominal pain during passing of stool.
- Pittaja Atisara: Stools are yellowish, greenish, blackish, foul-smelling, with burning sensation frequently, thirst.
- Kaphaja Atisara: Mucus-laden, sticky, heavy and pale stools and tenesmus.
- Sannipataja Atisara: Features of all three Doshas.
- Raktaj Atisara : yellowish, bloody, foul-smelling, with burning sensation.
- Shokaj and Bhayaj Atisara : Atisara features due to fear and grief; features similar to vataj atisara.
- Amaj Atisara : Sticky, pungent-smelling stool due to amajirna.

### Clinical Features of Atisara:

**Prodromal symptoms(Poorvarupa):** It includes pricking pain in Hruday, nabhi, Kukshi, Udaara. Malbaddhata(constipation), Adhmana(abdominal distension).

### Roopa :

देहवैवर्ण्यमरतिर्मुखग्लानिरनिद्रता ।

वातकर्मनिवृत्तिश्चेत्यतीसाराग्रवेदना ॥- का.सं.सु.२५/१४

Acharya Kashyapa explained the symptoms of atisara as dehavaivarnyam(change in body complexion), arati(uneasiness), mukhaglani(dullness on face), anidrata(inability or disturbed sleep) and vata karma nivrutti(inhibition of passing gas/flatulence i.e. vata karma). In other samhitas, the

symptoms enlisted as follows.

- Frequent watery stools (Drava mala pravritti)
- Fever (Jwara)
- Excessive thirst (Trishna)
- Abdominal pain (Udarashoola)
- Pallor (Vivarnata)
- Dehydration signs : sunken eyes,dry mouth,decreased urination,lethargy. Viral diarrhea ,most commonly Rotaviral usually begin with vomiting followed by frequent passage of watery,non-bloody stools;often associated with fever, lacks fecal leukocytes,recovery within 7 days.Bacterial diarrhea presents with low grade fever with abdominal pain,overt fecal blood,no vomiting before diarrhea onset ,high frequency of stool i.e. more than 10 per day

### Modern Correlation:

Atisara can be correlated with diarrhea caused by infectious agents (viral, bacterial, parasitic), dietary intolerance, or malnutrition. The clinical presentation often includes signs of dehydration, such as sunken eyes, dry mouth, decreased urine output, and lethargy. Standard management includes oral rehydration therapy (ORS), zinc supplementation, continued feeding, and in severe cases, hospitalization.

**Diagnosis** :Clinical diagnosis based on stool frequency,consistency,and associated symptoms.Skin turgor test for assessment of dehydration should be conducted by pinching a small skin fold on lateral abdominal wall at level of umbilicus.If fold doesn't promptly return to normal after release i.e. recoil time is said to be delayed slightly or more than or equal to 2 sec. Investigations (when indicated): Stool examination(routine,culture,ova/cyst); serum electrolytes,urea,creatinine(in moderate-severe dehydration),Rapid antigen test for Rotavirus. Campylobacter cytotoxin assay indicated in children older than 2 year who have recently received antibiotics or having other risk factors.

**Table No.1 Clinical signs associated with dehydration**

SYMPTOM	MINIMAL /NO DEHYDRATION	SOME DEHYDRATION	SEVERE DEHYDRATION
Mental status	Well, alert	Normal,fatigued/restless, irritable	Apathetic,lethargic, unconscious
Thirst	Drinks normally,might refuse liquids	Thirsty,eager to drink	Drinks poorly,unable to drink
Heart rate	Normal	Normal to increased	Tachycardia,bradycardia in most severe cases
Quality of Pulse	Normal	Normal to decreased	Weak,thready or impalpable
Breathing	Normal	Normal to fast	Deep
Eyes	Normal	Slightly sunken	Deeply sunken
Tears	Present	Decreased	Absent
Mouth , tongue	Moist	Dry	Parched
Skinfold	Instant recoil	Recoil in <2 sec	Recoil in >2 sec

Capillary refill	Normal	Prolonged	Prolonged/minimal
Extremities	Warm	Cool	Cold, mottled, Cyanotic
Urine output	Normal to decreased	Decreased	Minimal

**Differential Diagnosis:** It includes dysentery (Bloody stools) or can be due to malabsorption like lactose intolerance, Irritable bowel syndrome and Celiac disease.

### Management :

न तु सङ्ग्रहणं देयं पूर्वमामातिसारिणे। विबध्यमानाः प्राग्दोषा जनयन्त्यामयान् बहून्॥  
 दण्डकालसकाध्मानग्रहण्यशौगदांस्तथा। शोथपाण्ड्वामयप्लीहकुष्ठगुल्मोदरज्वरान्॥  
 तस्मादुपेक्षेतोत्कल्लिष्टान् वर्तमानान् स्वयं मलान्। कृच्छ्रं वा वहतां दद्यादभयां सम्प्रवर्तिनीम्॥  
 तथा प्रवाहिते दोषे प्रशाम्यत्युदरामयः। जायते देहलघुता जठराग्निश्च वर्धते॥  
 प्रमथ्यां मध्यदोषाणां दद्याद्दीपनपाचनीम्। लङ्घनं चाल्पदोषाणां प्रशस्तमतिसारिणाम्॥  
 चरक चिकित्सास्थान 19/15-19

### Ayurvedic Management:

- Langhana (light fasting) if alpa dosha present.
- Peya , manda, Yavagu (light gruels) if dosha are in moderate amount.
- Pathadichoorna, Mustadikwatha, Kutajaghanvati, Bilwa, Jeeraka, Ativisha, Nagarmotha as key herbs.
- Deepana-Pachana drugs to correct agni
- Probiotics and Rakta-Stambhana dravyas in severe cases.

Modern

### management :

- Oral Rehydration Therapy (ORT)-Low osmolality WHO ORS.
- Zinc supplementation-20 mg/day for 14 days(10mg/day in infants <6mths)
- Continue feeding and breastfeeding
- Antibiotics only in dysentery or proven bacterial infection.
- Probiotics -supportive role.

### Complications:

- Dehydration : Individual signs that best predict dehydration are prolonged CRT (more than 2 sec), abnormal skin turgor, hyperpnea i.e. deep, rapid breathing suggesting acidosis; dry mucous membranes, absent tears and general appearance including activity level and thirst. More number of signs signifies more likelihood of dehydration. Tachycardia, altered level of consciousness and cold extremities suggests severe dehydration.
- Electrolyte imbalance
- Acute kidney injury
- Malnutrition

- Other complications include lymphoid hyperplasia further leading to intussusception; sometimes complications like mesenteric adenitis presents as pseudoappendicitis. Campylobacter infections can lead to Guillian-Barre syndrome. Severe dehydration can lead to death if untreated.

**Prevention :**

- Exclusive breastfeeding for 6 months of age
- Safe weaning practices
- Clean drinking water and sanitation
- Hand hygiene
- Rotavirus vaccination
- Health education on nutrition and hygiene.

**Conclusion:**

Atisara(diarrhoea) in the pediatric population is a condition with high prevalence but preventable and manageable outcomes. Integrating ayurvedic principles with modern supportive management enhances recovery, reduces complications, and promote holistic healing. Timely intervention, appropriate dietary support, and public health measures are essential in reducing the burden of diarrhea in children. Grahi and Deepana formulation supports not only symptom control but also digestive restoration.

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