

## AN OVERVIEW ON NIDANA PANCHAKA OF ATISARA (DIARRHEA)

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## ABSTRACT

*Atisara* (diarrhea) is quite a common problem of the present era, due to irregular and unhealthy habits relating to *ahara* and *vihara*, which leads to *sarira* and *manavaigunyata* (physical as well as psychological involvement). Although *Atisara* (diarrhea) is rarely dangerous, it can be recurrent and cause agony in life. The incidence of *Atisara* (diarrhea) is increasing day by day due to the influence of western food habits, inappropriate diet regimen and mental stress. *Nidanapanchaka* with emphasis on *Samprapti* of *Atisara* (diarrhea) as described in *Ayurvedic* literature is discussed here. By understanding the *Nidanapanchaka* with in-depth understanding of *samprapti* helps in planning specific preventive measures and management.

**Keywords:** *Atisara, Manavaigunyata, Nidanapanchaka, Samprapti.*

## INTRODUCTION

*Atisara* (diarrhea) is most commonly encountered disease in clinical practice. Among inexhaustible list of gastrointestinal tract diseases, *Atisara* (diarrhea) finds a place as important disease in individual's life as everyone suffers from it at-least once in his life time. Most important factor in the pathogenesis of *Atisara* (diarrhea) is *mandagni*. *Mandagni* is root cause of *amadosha* and it is the crucial factor for manifestation of most of the diseases including *Atisara* (diarrhea). *Amadosha* results due to *agnidushti* caused by *mithyaaharavihara*, ultimately manifesting as *Atisara* (diarrhea). Thus faulty diet habits play an important role in causation of *Atisara* (diarrhea) and its treatment comprises suggestion to follow proper *aharavidhi vidhana*. Human digestive system is very sensitive system and responds to functions of the body and emotions. Hence, rightly the abdomen is called 'the sounding board of the emotions'.

It is quite interesting to note a mythological story behind origin of *Atisara* (diarrhea). It is noteworthy that initially, animals were not sacrificed in *yajna*. But later on, king *Prishadhra* conducted *yajna* and animals were utilized for *yajnyabali*. As there was a great need of animals even cows are said to be used for *yajnyabali*. After sacrificing the cows, the beef was eaten by the people. Due to *guru, ushnaguna* of cow's meat, they developed impairment in *agnibala*. Hence the disease *Atisara* (diarrhea) manifested for the first time after king *Prishadhra's yajnya*.<sup>1</sup> *Atisara* (diarrhea) comprises of two words *ati* and *saranam*. *Ati* means excess and *saranam* is *gati* or flow. Therefore *Atisara* (diarrhea) is a condition where watery stools are passed in excess, several times a day, through *guda*.<sup>2</sup> *Atisara* (diarrhea) is dealt in detail in *brihatryee* and *laghutrayee*. A vivid explanation regarding *nidana*, clinical features and type of *Atisara* (diarrhea) is found,

but with respect to *samprapti* no direct complete explanation is available in classics. *Brihatrayees* enumerate types of *Atisara* (diarrhea) as six. *Acharya Charaka, Vagbhatta and Sushruta* mentioned 6 types of *Atisara* (diarrhea) (*vataja, pittaja, kaphaja, sannipataja, bhayaja, shokaja*) but *Acharya Sushruta* has mentioned *amaja* type of *Atisara* (diarrhea) instead of *bhayaja* variety. *Madhava nidana* and *Sarangadhara* followed version of *Sushruta* along with addition of one more type each as *raktaja* and *bhayaja* respectively accounting to seven types. *Bhaishajyaratnavali* enumerates eight types with addition of *jwaraja* type. Further *Bhavaprakasha* classified *Atisara*(diarrhea) based on *avastha* as *amavastha, pakwavastha* and *raktavastha*. *Hareetasamhita* mentions only one type as *jwara atisara*. *Acharya Charaka* mentioned 36 types of *Atisara* (diarrhea) in *sidhisthana*.<sup>3</sup>

### **Nidanam**

*Nidanas* of *Atisara*(diarrhea) can be identified under four broad headings as viz. *Aharaja, viharaja, manasika* and *agantuja nidanas*. These may act as *viprakrausta nidana* (distant causes) or *sannikrishta nidana* (immediate causes) or both. *Nidana* can be further divided as *samanya nidana* and *visesha nidana*. *Samanya nidana* are common set of *nidana*, which leads to the *dushti* of *dosha* and in turn produces *samanyasamprapti*. *Viseshanidana* causes the *dushti* of particular *dosha* and produces the disease accordingly. *Samanya nidana* comprises the unwholesome diet and deeds such as excessive consumption of food, food article which is incompatible and not suitable for an individual and helminthes (*pureeshajakrimi*). Mind also plays equally important role in causing *Atisara* (diarrhea). *Visesha nidana* take account of the *nidana* of each

type of *Atisara* (diarrhea). *Acharya Charaka* has explained the factors for the individual *doshic* vitiation causing individual *doshic* types of the disease. Whereas others have given a general group of causative factors of which one or more may be applicable for individual patients. *Sushruta* in *Utatarasthana* mentions *guru*(heavy), *snigdha* (unctuous), *ruksha*(dry), *ushna* (hot), *drava* (liquid), *sthoola, sheeta padartha sevanana, sanyoga viruddha, samskara viruddha aharasevana, adyasana* (eating before the digestion of previous meal), *ajeerna, asathmyabhojana, increased snehapana, bhaya* (fear), *visha* (use of poison), *shoka* (grief), *dushtambupaana, madyapana, rithua saathmya* (change of season of physical contrarieties), moving in water, *vegavarodha, krimi* and *arshas*<sup>4</sup>. *Dalhana* comments *guru* as, *guru* in *matra* (quantity), *guna* (quality) and *vipaka*. In this context *Madhukosha* comments *guru* as *matra guru* and *swabhava guru* indicating intake of large quantity of food or even though the quantity is less the food possess excessive *guru gunas* like *masa* etc. *Viruddha* is commented by *Madhukosha* as *assamyoga, desha, kala, maatraadhi viruddha*, which includes *koshta, avastha, karma, samskara, agni, saathmya, paakavidhiviruddha, pariharopachara viruddha, hrudhivirrudha and sampddhivirudha*. *Madhukosha* accepts view of *Charaka* on *adhyashana* and defines it as intake of another meal before the last consumed meal is digested. *Madhukosha* favours view of *Sushruta* on *nidanavishamaashana*, as eating large quantities in short period of time. *Madhukosha* identifies *Krimi* as one of the *nidana* and explains that ingested *krimi*<sup>5</sup> in *pakwashaya* and vitiates the same along with the *Dosha*. *Krimi* plays a role of *doshahetu* as well as *vyadhi-*

hetu. Apart from above *nidana Vagbhata* opines that consumption of *sushka* or *rukshamamsa, mamsa* derived from lean animals or preparations of *tila* or germinating seeds, *Krimi* and *Arshas*<sup>6</sup> are responsible in causation of *Atisara* (diarrhea).

### Samprapti

Involvement of *vatapradhanatridosha* dusti can be figured out in *Samanya samprapti* of *Atisara* (diarrhea) leading to *agnimandya* and *ajeerana* which in turn causes *dushti* of *koshta* and *pakwamashaya*. As a result *apdhatu* attains *vimargagamana* from different part of the body to *koshta*, leading to increase in *dravata* of *pureesha* in *pakwasaya* manifesting as *Atisara* (diarrhea). *Visesha samprapti* includes pathogenesis of each type of *Atisara* (diarrhea). In *vataja Atisara* (diarrhea), *vatavidhi* (increase of *vata*) occurs due to *nidanasevana* (indulging in causative factors), which in turn leads to *agninasha* (impairment of digestive fire). This aggravated *vayu* brings down *mutra* (urine) and *sweda* (sweat) forcefully, causing liquefaction of mala resulting in *Atisara* (diarrhea). Whereas in *pittaja Atisara*, increased *drava* (liquid) *guna* of *pitta* is responsible for *agninasha* and *ushna* (heat) *guna* causes *pureeshabheda* (diarrhea). In *kaphaja Atisara* (diarrhea) due to *nidanasevana*; *guru, madhura, sheeta, snigdha* *guna* of *kapha* increases and gets collected in *amashaya* leading to *agninasha* and *saumya* nature results in manifestation of loose stools. According to *Charaka* both *bhayaja* and *shokaja Atisara* are caused due to *manasikadosha* and share same clinical feature of *vataja Atisara*. According to both *vagbhata, vatapitta samalakshana* is seen in *bhayaja Atisara*. In *amajaatisara* the pathology is more dominant in the *pittadhara-kala* rather than the *pureeshadharakala*. In

*pakwajatisara*, the pathology is more dominant in *pureeshadharakala*, ie, in *pakwasaya* than *pittadhara-kala*. Passage of *drava* stools is invariably seen in *Atisara* (diarrhea) and reasons for this includes *vatavidhi* in *koshta*, increase of *dravaguna* and decrease of *ushnaguna* of *pitta, vishishtadushti* of *pureeshavahasrotas, agnimandya* and *amavisha*. By analysing above factors, *samprapti* of *Atisara* (diarrhea) can be summarized as - the etiological factors cause *agninasha* resulting in disturbance and *dushti* of *apdhatu*, mixes with *pureesha*, it is driven downwards by *samana* and *apanavata*, which in turn leads to expulsion of most water mixed stools through *guda*.

Analysis of *Samprapti ghatakas* of *Atisara* (diarrhea) reveals invariably *vata* involvement as *pradhanadosha*. Impairment of *malapravriti* points out *apanavatadusti* and *agnimandya* indicates *Samanavatadusti*. Hence disease is resulted due to *dusti* of *samanavata, kledakakapha* and *apanavata*. *Pachakapitta* also plays a major role. Due to *vikriti* in *pachakapitta* there is *agnimandya* and *ama* prior to the manifestation of the disease. The *agnimandya* causes *ama*, which is similar to *kapha* in its *gunas*. Thus *kapha* i.e., *kledakakapha* is vitiated. In *Atisara* (diarrhea) the *dushyas* are *udakakyadhatus(kaya drava)*<sup>7</sup>. *Ama* resulted by *jatharagnimandya* causes *srotorodha* and leads to manifestation of *Atisara* (diarrhea). The *pradhanasrotas* that gets vitiated in case of *Atisara* (diarrhea) is *pureeshavaha Srotas*. *Atipravriti*, of mala through *gudamarga* is resulted. The place of origin of the disease (*udbhavasthana*) is *amashaya*. The *prakupita vata* along with other *dosha* moves through *koshta* and the *adhistana* is *pakwashaya*. *Guda* is *vyaktashtana* and *abhyantararogamarga* involved.

### **Purvarupa**

The premonitory symptoms are known as *Purvarupa*. In this stage, a rough idea regarding future disease can be identified, which helps to prevent the disease. *Charaka* has not mentioned *purvarupa* of *Atisara* (diarrhea). However, According to *Sushruta*<sup>8</sup> before the advent of *Atisara* (diarrhea), the premonitory symptoms are *toda* in *hridaya*, *nabhi*, *payu*, *udara*, *kukshi* (piercing pain in the region of heart, umbilicus, rectum and abdomen), *anilasannirodha* (non-elimination of flatus), *vitsanga* (constipation) *adhmana* and *avipaka*(abdominal distension and indigestion). *Madhavakara* and *Bhavaprakasha* have endorsed the same *lakshanas* put forth by *Sushruta*.

### **Rupa**

All the signs and symptoms of the disease become clearly evident in *roopavastha*. According to *Charaka* 6 main types of it can be identified and specific symptoms are attributed to each variety.

The symptoms of *vatajaatisara* can be obtainable under two headings<sup>9</sup> *ama atisara* and *pakwaAtisara*. *Amaja* variety has the following symptoms: stools are *vijjala* (slimy), *vipluta/prasaranasheela*(spreading nature), *avasadi*(that contains undigested matter, that are sinking when put in to water/*leenam* (gets absorbed when fall on ground) *ruksha* (dry), *drava*( liquid), *sashula*(attended with pain), *amagandha* (smelling like putrid flesh) *sashabdam/asabdam* (with or without making sound) *vibadhavata*, *mutra*(retention of urine and flatus)*vata* lodged in alimentary tract, getting obstructed moves obliquely making gurgling sounds and colicky pain. In *pakwa* stage *vibadha*, *alpalapam*, (passing of hard stool little by little), *sashabdam*, *sashoola* (along with sound and colicky

pain), *phena*, *picha*(frothy and slimy), *parikarthika* (gripping pain), *romaharsha* (horripilation), associated with *swasa*(difficulty in breathing) and *sushkamukha*(dryness of mouth). There will be pain in *kati*, *uru*, *trika*, *janu*, *prishtha*, *parswa* (waist,thigh,hips,knees,back and sides). This type of *Atisara*(diarrhea) is also called as *Anugrathitha atisara*<sup>10</sup>.

The specific features of the *Pitta* origin type are that the stool is *haridra* (yellowish) *haritha* (greenish), *nila* (blue), *Krishna* (blackish) tinged with blood and *pitta*, *atidurgandha* (very offensive), is accompanied by *trishna* (thirst), *daha* (burning), *sweda* (perspiration) *murcha* (fainting) *shola* (colic) *santapa*, *paka* (suppuration and inflammation of the affected organs).

In the *kapha* originated type of the disease the stool becomes *snigda* (unctuous), *swetha* (whitish), *pichila* (slimy). *Tantummat* (contain fibrinous shreds and undigested matter). *Guru* (heavy), *durgandha* (offensive) loose and constant, *sleshomapahita* (gets mixed with the lump of mucus), *anubandhashoola*, *alpalpa*, *abhishana* (scanty stools accompanied with pain, *guruudara*, *guda*, *basti*, *vakshana* (heaviness in the abdomen, rectum, hypogastric and inguinal region, *kriteapiakrutasamjata* (sense of incomplete evacuation), *romaharsha*(horripilation), *utklesa* (nausea, *nidra*(drowsiness), *alasya* (lethargy), *sadana* (asthenia), *annadweshi* (dislike for food). The symptoms which mark a case of *tridoshaja* type is due to the combined action of the three simultaneously deranged bodily *doshas*, resembles *varahasnehamamsaambu* (fatty stools). A case of *tridoshaja* type, if attended with all the symptoms, is very hard to cure and if occurring in an infant, or an old person, is scarce-

ly amenable to medical treatment. The suppressed tears of a grieving person of sparing diet, on quenching the digestive fire, reach down into the *koshtha* (intestines) and there freely mix with, and causes *dushti* of blood which becomes dark red like *kakananti* (*Gunja*). It then passes through the rectum expelled out with or without feces. The *doshas* in the *koshtha* (abdomen) are aggravated and deranged when they come in contact with the *Ama* (undigested) and are brought down into the *koshtha*, where they are more disturbed and emitted in combination with the undigested fecal matter in various ways, and are followed with pain and characterized by a variety of color.

### **Upadrava**

The *upadravas* of *Atisara* (diarrhea) as mentioned by different authors are compiled as *trishna* (thirst), *daha* (burning sensation), *swasa* (difficulty in breathing), *bhrama* (giddiness), *hikka* (hiccup), *jwara* (fever), *sopha* (swelling), *ruja* (pain), *kasa* (cough), *aruchi* (tastelessness), *pravahika* (mucous diarrhea), *parikartika* (gripped pain in rectum), *murcha* (fainting). Most of the *upadravas* are well indicative of severe stage of dehydration.

Before it passes into the incurable stage, the physician by investigating the etiological factors, signs and the morbidity of humours should begin the treatment of the most predominant morbid humour in the condition.

### **Pareeksha**

*Pareeksha* mainly include *srotopareeksha* and *malapareeksha*. The dominant *srotas* involved in *Atisara* (diarrhea) is *pureeshavahasrotas*. *Pureeshavahasrotodushti nidana* comprises of *vegadharana* (holding the urge of defecation), *atyashana* (over eating), *ajeerna* (due to indigestion), *adhyashana*, *durbalagni* (due to weak digestive pow-

er), *krisha* (due to leanness of the body). *Purishavaha Srotodushti lakshana* are *krichrenaalpalpam*, *sasabda*, *sashoolam*, *athidravam*, *athigrathitham*, *atibahu*.<sup>11</sup>

*Mala pareeksha*: Diagnosis of this disease is mainly based on signs and symptoms and examination of stool ie, *mala pareeksha*. This plays a vital role in detecting abnormal constituents such as *ama*, *rakta*, *kapha*, *krimi* and *pooya* etc. in stool, assists in differentiating *ama mala* and *pakwa mala*. According to *Chakradatta* and *ashtanga sangraha*, *pureesha* are in *sama avastha*, if it sinks in water whereas *nirama* if floats on water except in condition of excess liquidity, compactness, coldness and presence of mucous. The *ama* stool has foul smell with painful flatulence, distressing constipation and abnormal salivation. *Nirama mala* will be free from these associated symptoms. Signs and symptoms of *Atisara* can be elicited in depth by *trividha pareeksha* of *vagbhata* and *shadvidha pareeksha* of *Sushruta*. *Lakshanas* like *vipluta* (slimy), *avasadi* (that contains undigested matter, that sink when put in water/*leenam* (gets absorbed- fall on ground), *ruksha* (dry), *drava* (watery), *phena* (frothy), *sleshmopahita* (with mucous) and the colours *haridra* (yellowish), *haritha* (green), *neela* (blue), *krishna* (black), *swetha* (white) are perceived by *darshanapareesha/ chakshurindriya pareeksha*. *Pichila* (slimy), *snigda* (unctuous), *tantuma t* (contain fibrinous shreds and undigested matter) *lakshanas* can be assessed by *sparshana/sparshanendriya pareeksha*. Through *prasnareeksha* various symptoms like *shola* (colicky), *vibandha* (constipation), obstruction of *vata* (flatus), *mutra* (urine), *kriteapiakrutasamja* (sense of incomplete evacuation), *trishna* (thirst), *daha* (burning sensation), *murcha* (fainting),

*sweda* (perspiration), *utklesha* (nausea), *nidra* (drowsiness), *alasya* (lethargy), *an-nadweshha* (dislike for food) can be obtained. Various *shabdha* associated with *mala pravrutti* can be heard through *shrothrendri-yapareesha*.

#### **Pathyapathya:**

*Pathyapathya* or *upashaya-anupashaya* of *Atisara* is considerably dealt in *Ayurveda*. In *kasyapa Samhita* fruits, cereals, hot water are considered as *pathya* and *apathya* include intake of *lashuna* (garlic), unctuous substance, meat soup and sudation. *Yogaratanakara*<sup>12</sup> has given elaborate explanation on regard of *pathya* *apathya*, important *pathya* are *nidra*, *langana*, milk of goat and cow, *ghrita*, butter extracted from cow or goat milk, curd, buttermilk prepared out of cow or goat. *Apathyas* include waking during night, heavy foods and drinks.

#### **Sadhyasadhyata:**

*Atisara* (diarrhea) is said to be *kri-chrasaadya* when it is devoid of any complications and *dhatudushti*. It is said to be *asaadhya* in *bala, vridha*, when many *upadravas* are present and in a young man who has *atidhatudushti*. *Charakauktaa saadyalakshana* of *sannipaatajwara* is similar to the *Shushrutokta asaadyalakshana* of *Atisara* (diarrhea).

#### **Atisara (diarrhea) nivruithilakshana:**

Patient relieved of *Atisara* (diarrhea) passes urine and flatus independently of *mala* along with *deepthaagni* and *laghutwa* (lightness of abdomen).<sup>13</sup>

#### **CONCLUSION**

Indulgence in *hetu* leads to *Samsamyapam dhathuragni*<sup>14</sup> and this is the primary step involved in this disease. *Pakta cha upahanyate* points out *agni mandya* plays a pivotal role resulted due to *vikruthi* of *samanavata*, *pachakapitta*, *kledakakapha* and *pu-*

*reeshavahasrotas*. Among *dustihetus* of *purisavaha srotassandharana*, *adhyasana*, *ajirnasana*, *atyasana*, *durbalagni*, most of the *hetus* are related with *ahara* and *ahara-vidhividhana*. *Prakupitavata* in *agnimandyaavastha* brings *kaya drava's* especially *mutra* and *sweda* to *pakwasaya* by *asayaapakarshakaswabava* and causes *draveebhuta of pureesha* leading to *Atisara* (diarrhea)<sup>15</sup>. The loss of *kaya drava* (fluid and electrolytes) produces dehydration, the severity of which depends upon the frequency of diarrhea and the amount of loss. Although there is no separate mention about dehydration, but symptoms like *trishna*, *sosha*, *sushkasya*, *saktamootra* etc suggest symptoms of dehydration. The concept of microorganisms causing *Atisara* (diarrhea) was an age old known factor. Some of the *abhyantarakrimi* (intestinal parasites) are mentioned as *sookshma* depicting microorganisms. *Charakacharya* has mentioned individual separate *doshaja samprapti* for different types of *Atisara* (diarrhea). *Mandagni* is the most important factor in causation of *Atisara* (diarrhea). Therefore drugs used for treatment should act directly or indirectly on *agni*. If *Atisara* (diarrhea) *roga* is not treated properly, *agni* gets further hampered and this leads to *Grahaniroga*. The disease *Atisara* is said to be *ghora*, *daruna* and *dhatushoshi*. Management should primarily aim at *Nidana Parivarjana* in *Atisara* by avoiding *agnivaigunyakara hetus* and *apanavaigunyakara hetus*.

#### **REFERENCES**

1. Acharya Y.T. CharakaSamhita by Agnivesha .Reprinted. Varanasi. ChaukhambhaPrakashan; 2011.P.547.
2. MadhavaNidana, 49/34, Madhukosha comm. With Hindi VidyotiniComm, by

- S. Shastri.Vol. II, Chaukhambha Sanskrit Sansthan, Varanasi.p.61.
3. Acharya Y.T. CharakaSamhita by Agnivesha .Reprinted. Varanasi. ChaukhambhaPrakashan ; 2011.P.714.
  4. MaharshiSushruta; SushrutaSamhita; Sri DalhanacharyaTeeka; Sri GayadasaAcharyaTeeka; Edited by VaidyaTrikamjiAcharya; Publisher Choukambha Sanskrit Sansthan; 8th edition; 2005; P.696.
  5. MadhavaNidana, 49/34, Madhukosha comm. With Hindi Vidyotini Comm., by S. Shastri.Vol. II, Chaukhambha Sanskrit Sansthan, Varanasi.p.53.
  6. Tripati.  
B.SrimathVagbhatacharithamAstangaHrudayam. Varanasi: ChaukambaSanskrit Prathisthan;2010.p.487.
  7. MaharshiSushruta; SushrutaSamhita; Sri DalhanacharyaTeeka; Sri GayadasaAcharyaTeeka; Edited by VaidyaTrikamjiAcharya; Publisher Choukambha Sanskrit Sansthan; 8th edition; 2005; P.696.
  8. MaharshiSushruta; SushrutaSamhita; Sri DalhanacharyaTeeka; Sri GayadasaAcharyaTeeka; Edited by VaidyaTrikamjiAcharya; Publisher Choukambha Sanskrit Sansthan; 8th edition; 2005; P.697.
  9. Acharya Y.T. CharakaSamhita by Agnivesha .Reprinted. Varanasi. ChaukhambhaPrakashan ; 2011.P.549.
  10. Acharya Y.T. CharakaSamhita by Agnivesha .Reprinted. Varanasi. ChaukhambhaPrakasha; 2011.P.549.
  11. Acharya Y.T. CharakaSamhita by Agnivesha .Reprinted. Varanasi. ChaukhambhaPrakashan ; 2011.P.251.
  12. Sastri B.S. Yogaratnakara with Vidyotinihindicommentary . Reprint ed. Varanasi .ChaukhambhaPrakashan ; 2010.P-277
  13. MaharshiSushruta; SushrutaSamhita; Sri DalhanacharyaTeeka; Sri GayadasaAcharyaTeeka; Edited by VaidyaTrikamjiAcharya; Publisher Choukambha Sanskrit Sansthan; 8th edition; 2005; P.709.
  14. MaharshiSushruta; SushrutaSamhita; Sri DalhanacharyaTeeka; Sri GayadasaAcharyaTeeka; Edited by VaidyaTrikamjiAcharya; Publisher Choukambha Sanskrit Sansthan; 8th edition; 2005; P.696.
  15. Desai.  
R.Nidanachikistahastamalak.Nagpur .Srividyanatha Ayurveda bhavanpvt ltd; Vol.2. 2010. P-277

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