

# Effects of Stress on IBS W.S.R Grahni Roga - Ayurveda and Modern Review

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**Abstract:** *Grahani Roga is one of the most commonly described gastrointestinal disorders in Ayurveda and is primarily associated with impairment of Agni (digestive fire) and dysfunction of the Grahani, the organ responsible for digestion and absorption. The clinical features of Grahani Roga closely resemble those of Irritable Bowel Syndrome (IBS), a functional gastrointestinal disorder characterized by abdominal pain, altered bowel habits, bloating, constipation, and diarrhea in the absence of any structural abnormality. According to Ayurveda, vitiation of Vata Dosha along with weakened Jatharagni plays a key role in the pathogenesis of the disease. Factors such as improper dietary habits, psychological stress, irregular lifestyle, and intake of incompatible foods significantly contribute to its onset and progression. IBS is increasingly prevalent worldwide and is strongly associated with stress, altered gut motility, and disturbances in the gut-brain axis. The prevalence of Irritable Bowel Syndrome (IBS) in India is estimated to be between 4% and 7%, though some studies suggest it may range from 0.4% to over 10%, often rising in urban areas due to lifestyle factors. It is a chronic gut disorder characterized by abdominal pain and altered bowel habits, frequently linked to stress. Ayurvedic literature provides a holistic understanding of this condition through the concept of Grahani, emphasizing correction of Agni, balancing of Doshas, and restoration of digestive function. Therapeutic approaches include Deepana (enhancing digestive fire), Pachana (digestion of toxins), dietary regulation, lifestyle modification, and administration of herbal formulations. Panchakarma procedures may also be beneficial in chronic cases. This review highlights the correlation between Grahani Roga and IBS with respect to etiology, symptomatology, pathogenesis, and management. An integrative Ayurvedic approach may offer safe, effective, and long-term management of IBS by addressing both physical and psychological factors, thereby improving the quality of life of affected individuals.*

**Keywords:** Grahani Roga, Irritable Bowel Syndrome, Ayurvedic digestion, gut health, digestive disorders

## 1. Introduction

According to Ayurveda, Ayu (life) is the harmonious combination of the body, mind, soul, and senses. A balanced diet and regular physical activity are the foundations of a healthy lifestyle. In the modern technological era, unhealthy lifestyle patterns, improper eating habits, obesity, mental stress, and a hectic routine have contributed to the rise of many diseases. These factors disturb the digestive system and weaken metabolic functions, resulting in various digestive disorders. Grahani is an organ between Amāshaya and Pakvāshaya, a large digestive tract that combines digestive juices and where digestion occurs. It is also responsible for maintaining a sufficient time for proper digestion and for the absorption of nutrients from digested foods. Grahani dysfunction is called Grahani Dosha. Grahani roga is the most common infection of gastro-digestive system and seen regularly in everyday practice. In charak Samhita, Grahani is depicted as an Agni adhishthana.<sup>1</sup> Any unsettling influence in the situation with agni prompts Grahani roga. Grahani roga is one among the Ashtamahagadas. Ayurveda depicted the distinction of Mana and Shareera and their indistinguishable and associated connection in the body. In Ayurveda separate Nidana panchakas are not clarified for Grahani roga, as Samanya nidana is material and mental variable of Grahani roga in general. Grahani roga is a prevalent Pitta Vatadosha and the mental element can be effectively be upset by Vata and Pitta Dosha. Both Ayurveda and contemporary science acknowledge the way that for better administration and avoidance of Grahani roga (IBS,) mental variables are playing a huge part. So to eliminate an infection from its root, the causative elements ought to likewise be perceived and

precluded totally. With the thought of expanding rate gastro-digestive illness across the globe and world is looking forward towards Ayurveda for safe treatment modalities, it is fundamental for discover the viable helpful strategies from our science. In this article, a work is made to comprehend the job of mental component in Grahani roga. Agnimandya lead to the formation of Ama which is the cause of many other diseases<sup>2</sup>.

Grahani roga is caused by the corruption of Agni i.e Mandagni. Grahani roga is one among the Ashtamahagadas. Grahani roga has a solid psycho-somatic foundation and psychological factors like Krodha, Shoka, Bhaya, Kama etc. results in Agnidushti causing Grahani dosha<sup>3</sup>.

The Samanya Nidana (general etiological factors) are also involved in the manifestation of Grahani Roga. Grahani is predominantly considered a Vata-Pitta Pradhana Vyadhi, in which psychological factors play a crucial role in both the initiation and progression of the disease. Emotional disturbances such as anxiety, stress, anger, fear, and grief adversely affect Agni, leading to the vitiation of Vata and Pitta Doshas and thereby contributing to the pathogenesis of Grahani Roga. Therefore, a detailed understanding of these psychological factors and their role in the etiopathogenesis of the disease is essential for accurate diagnosis and effective management.

The clinical features of Grahani described in classical Ayurvedic texts closely resemble those of Irritable Bowel Syndrome (IBS) mentioned in modern medicine. IBS is a functional gastrointestinal disorder characterized by recurrent

abdominal pain associated with altered bowel habits, including diarrhea, constipation, or both. Additional symptoms may include bloating, abdominal discomfort, and excessive gas formation. This disorder affects 11.2% global proportion of the population<sup>4</sup>.

Modern research suggests that IBS is more common among individuals with psychological disorders, particularly anxiety and mood disturbances, highlighting a strong gut-brain connection. Also known as spastic colon, irritable colon, or mucous colitis, IBS is regarded as a chronic intestinal disorder that varies in severity and duration from person to person. IBS can significantly impact the quality of life of those affected, and it is important to seek appropriate medical attention to manage the symptoms and also to improve overall health.<sup>5</sup> Although its exact etiology remains uncertain, psychological stress, altered gut motility, and visceral hypersensitivity are considered major contributing factors.

### Etiology-

#### Etiology of Grahani Roga

According to Ayurveda, Grahani Roga mainly develops due to impairment of *Agni* (digestive fire), especially *Jatharagni*. When *Agni* becomes weak or irregular, digestion and absorption are affected, leading to the formation of *Ama* (toxic, undigested metabolites) and vitiation of *Doshas*, predominantly *Vata* and *Pitta*. The important etiological factors (*Nidan*s) of Grahani Roga include:

- Irregular dietary habits (*Vishamashana*)
- Intake of incompatible or unhygienic food (*Viruddha Ahara*)
- Excessive consumption of heavy, oily, spicy, or stale food
- Eating before digestion of previous meal (*Adhyashana*)
- Suppression of natural urges (*Vega Dharana*)
- Excessive fasting or overeating
- Psychological factors such as stress, anxiety, anger (*Krodha*), fear (*Bhaya*), and grief (*Shoka*)
- Sedentary lifestyle and improper daily regimen
- Improper management of diseases like *Atisara* (diarrhea)

These factors disturb the normal functioning of Grahani and result in symptoms like irregular bowel habits, abdominal pain, bloating, indigestion, and weakness.

#### Etiology of Irritable Bowel Syndrome (IBS)

IBS is a multifactorial functional gastrointestinal disorder with no identifiable structural abnormality. The exact cause is not fully understood, but several contributing factors have been identified:

- Psychological stress and anxiety
- Depression and mood disorders
- Disturbance in the gut-brain axis
- Altered gastrointestinal motility
- Visceral hypersensitivity
- Post-infectious intestinal changes
- Food intolerance and dietary triggers
- Alteration in gut microbiota
- Genetic predisposition
- Hormonal influences

Common precipitating factors include spicy food, irregular eating habits, stress, sleep disturbances, and infections. These

factors lead to symptoms such as recurrent abdominal pain, diarrhoea, constipation, bloating, and altered bowel habits.

Thus, both Grahani Roga and IBS share similarities in their etiological factors, particularly the influence of diet, lifestyle, and psychological stress on digestive functioning.

#### Samprapti of Grahani Roga

According to Ayurveda, Grahani Roga is primarily associated with the derangement of *Vata Dosha* in the *Pakvashaya*, particularly *Apana Vayu*, which leads to symptoms such as abdominal pain and altered bowel habits. Ayurveda considers impaired *Agni* as the root cause of most diseases, and *Mandagni* results in *Dosha Prakopa*. Emotional factors such as *Krodha* (anger), *Bhaya* (fear), and *Shoka* (grief) adversely affect *Agni* and contribute to the vitiation of *Vata Dosha*. Disturbance of the mind and *Agni* further aggravates *Vata*, thereby playing a significant role in the pathogenesis of Grahani Roga. In the *Samprapti* of Grahani Roga, along with *Apana Vayu*, other factors such as *Prana Vayu*, *Samana Vayu*, *Pachaka Pitta*, and *Kledaka Kapha* also contribute significantly to the manifestation of the disease.

**NIDANA**– Although there is no direct reference to *Manasika Nidana* in Grahani Roga, the role of psychological factors has been described in the *Vimana Sthana*. According to *Acharya Charaka*, emotional disturbances such as *Krodha* (anger), *Lobha* (greed), *Irshya* (jealousy), *Hri* (shame), and *Shoka* (grief) disturb the mental state (*Uptapta Manasa*), which in turn leads to *Agnidushti*. This impairment of *Agni* may manifest as *Mandagni*, *Vishamagni*, or *Tikshnagni*, collectively referred to as *Grahani Dosha*, resulting in altered bowel habits and abdominal pain.<sup>6</sup>

*Acharya Charaka* further emphasized that even a person with *Samyak Agni* may fail to digest properly consumed food when affected by conditions such as *Chinta* (worry), *Krodha* (anger), *Bhaya* (fear), *Shoka* (grief), and *Dukhashayya-Prajagara* (disturbed sleep and mental stress).<sup>7</sup> These factors adversely affect *Agni* and contribute significantly to the pathogenesis of Grahani Roga.

According to *Acharya Sushruta*, Grahani manifests due to the impaired functioning of *Agni*. He further explained that food is not properly digested in individuals who are emotionally disturbed by factors such as jealousy, fear, anger, or greed, as well as in those suffering from depression due to other illnesses or following an unhealthy diet.<sup>8</sup>

#### Psychological Involvement In IBS

In all forms of Irritable Bowel Syndrome (IBS), the brain plays a significant role in the development and progression of the disorder. Psychological conditions such as anxiety and depression increase the brain's sensitivity to colonic spasms and visceral sensations. Stress-induced immune responses and antibodies may also contribute to the pathogenesis of IBS. Alterations in gastrointestinal (GI) motility are considered an important component of the visceral response to stress.

The functioning of the gastrointestinal tract is regulated by the *Enteric Nervous System (ENS)*, *Autonomic Nervous System (ANS)*, and *Central Nervous System (CNS)*. The *ENS* controls intestinal motility, fluid exchange, secretion, and blood flow. *Parasympathetic* activities are mediated through

the vagal and sacral plexuses, promoting relaxation of the sphincters, whereas the sympathetic nervous system helps maintain sphincter tone.

According to the concept of gut-brain psychology, the gut microbiota forms an integral part of the intestinal environment and communicates with the brain through the microbiota-gut-brain axis.<sup>9</sup> The gut microbiota influences several normal mental and emotional processes and is also involved in the pathophysiology of various psychiatric and neurological disorders. Factors such as chronic stress, unhealthy dietary habits, and disturbances in gut microbiota may disrupt this balance, ultimately contributing to the development of disorders such as IBS.

IBS is commonly diagnosed using the Rome III criteria. According to these criteria, recurrent abdominal pain or discomfort should be present for at least 3 days per month and be associated with two or more of the following features<sup>10</sup>:

- 1) Improvement with defecation
- 2) Onset associated with a change in the frequency of stool
- 3) Onset associated with a change in the form or consistency of stool

These symptoms are significantly influenced by psychological factors and mental stress. Therefore, IBS can be considered a psychosomatic disorder in which both the mind and body contribute to the pathogenesis of the disease.

## 2. Discussion

According to Ayurveda, impaired Agni is considered the primary cause of almost all diseases. Mandagni leads to Dosha Prakopa, and psychological disturbances significantly influence the functioning of Agni. Disturbance of the mind (Dusti Mana) and impairment of Agni contribute to the manifestation of various disorders. In Grahani Roga, all three Doshas are involved, with predominant vitiation of Pitta and Kapha, while Vata plays a comparatively lesser role. The Samprapti of Grahani Roga mainly involves Pitta in the primary stage, followed by Kapha, along with the association of Vata.

The condition of Pittavrita Prana Vata shows close resemblance to the symptomatology of Grahani Roga. Therefore, Grahani may be understood as a disorder resulting from Pitta and Kapha obstructing the normal functioning of Vata, particularly Prana Vata and Samana Vata. Grahani Roga can also be correlated with Irritable Bowel Syndrome (IBS), in which an individual's psychological state and emotional responses play a major role in the manifestation and progression of the disease.

Psychological factors not only contribute to the development of Grahani Roga but may also predispose individuals to various other chronic illnesses and long-term complications. Classical Ayurvedic texts describe emotional states such as Chinta (worry), Kama (desire), Krodha (anger), Shoka (grief), and Bhaya (fear) as important psychological factors involved in the pathogenesis of Grahani Roga.

Ayurvedic texts describe that Atichinta (excessive worry) leads to the aggravation of Vata, depletion of Pitta, and

Rasavaha Srotodushti. Chinta, which may manifest as anxiety or depression, is considered an important causative factor for several mental disorders. Modern studies, including observations from the Harvard Mental Health Letter, have highlighted the close association between psychological stress and intestinal disorders, stating that stress can both trigger and aggravate abdominal symptoms, while gastrointestinal disturbances may in turn worsen mental stress. This demonstrates the bidirectional relationship between the mind and the gut.

Krodha (anger) has significant emotional and physiological effects. Excessive emotional reactions stimulate the release of adrenaline, leading to increased systolic blood pressure, decreased diastolic blood pressure, and an elevated heart rate. Persistent anger negatively affects overall quality of life, and studies have shown its adverse impact on patients with Irritable Bowel Syndrome (IBS).<sup>11</sup>

Bhaya (fear) contributes to stress, anxiety, depression, and emotional instability. The close interaction between the central nervous system and the enteric nervous system is well established. The enteric nervous system plays a vital role in regulating intestinal motility and fluid balance, thereby influencing gastrointestinal physiology.<sup>12</sup>

Shoka (grief) is also considered an important psychological factor associated with mental disturbances. Studies have demonstrated a strong association between IBS and psychological disorders.<sup>13</sup> Similarly, the influence of Kama (desire or excessive attachment) may be understood through hormonal imbalances, which can directly affect the normal functioning of the gastrointestinal tract. Along with intestinal hormones such as gastrin, motilin, cholecystokinin, and secretin, sex hormones like testosterone and estrogen are also believed to have a role in IBS.<sup>14</sup>

Thus, most psychosomatic disorders involve a strong interaction between psychological and physical factors. Therefore, management should focus not only on physical symptoms but also on psychological well-being. Grahani Roga (IBS) possesses a strong psychosomatic basis, and both Ayurveda and modern science acknowledge the important role of psychological factors in its prevention and management. Maintenance of healthy gut microbiota further reflects the combined influence of mental and physical health in the pathogenesis of Grahani Roga.

The ideal Chikitsa (treatment) for Grahani Roga should aim at pacifying both the vitiated Sharirika Doshas and Manasika Doshas. Treatment should not be limited only to symptomatic relief; rather, it should also address the psychological factors that act as stressors and contribute to mental disturbances and altered bowel habits. Therefore, internal medications and therapeutic measures should be selected in a manner that helps restore both mental and physical balance.

Ayurvedic herbs such as Sarpagandha, Jatamansi, Brahmi, Vacha, Tagara, Ashwagandha, and Bala are traditionally regarded as helpful in managing psychological disturbances associated with Grahani Roga. Several herbal formulations, including Saraswata Choorna, Tagaradi Choorna, Ashwagandhadi Choorna, Vacha Choorna, and Jatamansi

Choorna, are commonly recommended for this purpose. In addition, classical Ayurvedic preparations like Brahmi Rasayana, Mahakalyanaka Ghrita, Panchagavya Ghrita, Saraswatarishta, Ashwagandharishta, and Balarishta are used to promote mental well-being, enhance emotional stability, and support digestive health.

In modern medicine, the management of IBS commonly includes anti-anxiety drugs, antidepressants, and sedatives. Although these medications may provide symptomatic relief, prolonged use can sometimes be associated with adverse effects. Ayurvedic management, on the other hand, emphasizes a holistic approach aimed at restoring physical and psychological harmony, which contributes to its growing global acceptance.

### 3. Conclusion

Grahani Roga is a disorder of the Annavaha Srotas that is directly associated with Agnidushti. Agni becomes impaired due to factors such as improper lifestyle, unhealthy dietary habits, and other conditions that directly or indirectly disturb digestive function. According to Ayurveda, Grahani is a Tridoshatmaka disease resulting from dysfunction of the digestive fire (Agni).

From the perspective of the gastrointestinal system, nervous regulation plays an important role in various functions such as digestion, absorption, and peristaltic movements. In this context, psychological factors also have a significant influence on maintaining overall health. Emotional disturbances such as anxiety, anger, greed, and other mental stressors can adversely affect the physiology of digestion, thereby disturbing homeostasis and contributing to the development of Grahani Roga.

In modern medicine, treatment is often mainly symptomatic and supportive. Ayurveda, however, considers the patient as a whole and evaluates the complete physical and psychological condition before initiating treatment. Therefore, Ayurvedic management includes both medicinal therapies and holistic therapeutic interventions aimed at restoring overall balance and health.

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