

AN AYURVEDIC REVIEW OF GRAHANI ROGA W.S.R IRRITABLE BOWEL SYNDROME (IBS)

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ABSTRACT

In today's era, there are irregularities in the nutrition and dietary timings of the people. Apart from this people are under constant mental stress due to multiple reasons. All of these factors lead to abnormalities in the function of gastrointestinal system. In *Ayurveda Mandagni* is considered as the root cause for manifestation of many diseases. Among them, *Grahani Roga* is one of the prime disease of gastro-intestinal tract and seen often in day to day practice. *Grahani*(organ-duodenum) and *Agni* are interdependent. *Mandagni* leads to *Ama Dosha* which may result in *Grahani Roga* over time. The sign & symptoms of *Grahani Roga* are similar to Irritable bowel syndrome as described in modern medical science. IBS in world has been estimated to be 11.2% and in India is 4.2%-7.7%. It is 3 times more common in women and people of working age.

KEYWORDS: *Agni, Grahani Roga, Mandagni, IBS.***INTRODUCTION**

Ahara (food) is the most important factor for sustenance of life. It is described as foremost pillar among the three pillars of life (*Trayopstambha*)^[1] i.e. *Ahara, Nidra, Brahmacharya*. *HitKari/PathyaAhara* (Wholesome food) as per *Ayurveda* is conducive for the maintenance of good health, longevity, strength, intellect, good voice and complexion. *Agni* is the invariable agent in the process of *Ahara paka* (digestion, transformation). *Grahani*^[2] is an *Ayurveda* term related to the seat of *Agni* (digestive fire), which help in the metabolism and digestion of food. In *Ayurveda Mandagni* is considered as the root cause for manifestation of many diseases. Among them, *Grahani roga* is one of the prime disease of gastro-intestinal tract and seen often in day to day practice. *Mandagni* leads to *Ama Dosha* which may result in *Grahani Roga* over time. Acharya *Charaka* says that when partially digested and partially undigested bio substances moves downward in gastrointestinal tract it produces a disorder known as *Grahani roga* due to *Durbala*(weak) *Agni*.^[3] *Grahani* and *Agni* are interdependent, functionally weak *Agni* i.e., *Durbala Agni*, causes improper digestion of ingested food, which leads to *Ama Dosha*. This *Ama Dosha* is a root cause of most of the diseases. It has pivotal importance in the pathogenesis of *Grahani Roga*. *Grahani* is considered under than eight major diseases (*Ashtamahagada*) by Acharya *Vagbhatta*.^[4]

In modern science, no disease or condition is exactly similar to *Grahani roga*, but symptoms are found very common in various disease conditions, on which the concept of *Grahani roga* is based. Following are the conditions that commonly show the symptoms of *Grahani*:

• IRRITABLE BOWEL SYNDROME

Irritable bowel syndrome (IBS) has been defined as a functional disorder of gastrointestinal tract without any accompanying structural defect, in which normal activity of bowel either exaggerated or distorted in such a way that it leads to constipation and/or diarrhoea and frequently to abdominal pain or discomfort. It can also be described as a dysregulation of the brain-gut axis that interacts with visceral hypersensitivity and associated with observed digestive motor disturbances and micro inflammation of the gut, with possibly an imbalance of the intestinal bio flora. The prevalence is known to be higher in Western countries as compared to Asian countries. The prevalence of IBS within the community is between 10% and 25%. Meta-analysis shows a pooled estimate of international IBS prevalence of 11.2% (95% confidence interval [CI]: 9.8–12.8), with variation by geographic region; the lowest occurring in South Asia (7.0%) and the highest in South America (21.0%). In the United States, nearly 20% of general population is known to be affected by IBS. In Western countries, females outnumber males by the ratio of 2:1, while

female-to-male ratio in USA is 3:2. It was observed that the ratio of females to males in India is reversed, i.e. 1:3 to that of the Western countries. The disorder is usually found in the age group of 15–50 years and may also occur in children and elderly. The prevalence of IBS in general population of India is 15%. Most of the patients approach the general practitioner and only 30%–50% of the workload at gastroenterology outpatient clinics.^[5]

AYURVEDIC REVIEW

The term *Grahani* implies for both to the name of disease and organ that is involved in pathogenesis. For better understanding of *Grahani Roga* it is pertinent to go through the concept of *Agni* and *Ama*. Here is a brief description of *Agni* and *Ama*.

CONCEPT OF AGNI

The term *Agni* in *Ayurveda* has a significant role to maintain body homeostasis, body functioning, metabolism of body.

Agni is described in *Ayurveda* as having many derivatives that show the importance of *Agni*. As *Ayu* (longevity) which means it increases the human's life span, if *Agni* is working properly, *Varna* (complexion) which means it maintains the colour complexion of the body, *Balam* (strength) which means *Agni* maintains the body's strength. *Swasthyam* (health) which means it maintains the human's physical, *Ojas* (tissue essence) maintains the body's immunity, *Agnayah* (bio fires) maintains the body's digestive fires, and *Prana* (life) maintains the human being's stable life. When the body's *Agni* is extinguished, the body is deemed dead, and *Sharira* is considered dead. As long as *Agni* in the body is in a healthy state, a person can live a long life free of illness or sickness. As a result, *Agni* is the root cause of all.^[6]

ETYMOLOGY

Agni is defined as "*Nayate Prinamayatiti*" in *Vachaspatyam*, meaning "which introduces changes in an organism or a substance" implying that it is a significant factor in the transformation of eaten *Ahara Vihara* and other substances.

The functions of *Agni* are attributed to *Pitta Dosha*, since the term *Pitta* derived from "*Tapa Santape* is similar to *Agni*.^[7]

AGNI IN AYURVEDA

-According to *Charaka*, there are 13 types of *Agnis*. These are 13 types of *Agnis*. These are -*AntarAgni*-1, *BhutAgni*-5, and *DhatvAgni*-7.^[8]

GRAHANI ROGA

HETUS (ETIOLOGICAL FACTORS) OF GRAHANI ROGA^[9]

One who eats greedily leaving aside all the rules acquires the disorder due to morbidity in *Grahani* soon. Vitiated

Agni is the main factor for the causation of the disease. The main causes of *Grahani Roga* are-

1. Vitiating of *Agni* directly by indulging in various etiological factor
2. When *Mandagni* already persist such as after diarrhea and person still indulge in '*Ahit- Sevan*'.

The etiological factors which are stated to be responsible for *Agni Dushti* can be divided into two groups i.e. *Samanya*(general) and *Vishishta*(specific) *Hetus*.

Samanya Hetus

1- Aaharaj Nidan

Table 1: Aaharaj Nidan.

<i>Abhojana</i>	<i>Samashana</i>
<i>Vishamashana</i>	<i>Viruddhashana</i>
<i>Atibhojana</i>	<i>Asatmya Bhojana</i>
<i>Atiguru Bhojana</i>	<i>Sheeta Bhojana</i>
<i>Atiruksha Bhojana</i>	<i>Sandushta Bhojana</i>

2- Vyapada of Panchkarma

- *Virechana*
- *Vamana*
- *Snehana*

3- Emaciation or wasting brought about by other diseases

4- *Viruddha* or Incompatibility of-

- *Desha*
- *Kala*
- *Ritu*

5- Suppression of natural urges (*Vega Vidharana*)

- *Acharya Sushruta* also described causes of *Ajeernaas*.^[10]
 - *Atyambupana*
 - *Vishamashana*
 - *Swapna Viparyaya*(*Divaswapa and Ratri Jagarana*)
 - *Manasika Hetus viz. Irsha, Bhaya, Krodha, Lubdhata, Shoka, Dainya, etc.*

Vishesh Hetu

- *Sushruta* described *Grahani Roga* in chapter *Atisara Pratisedh*. He states that if a person who has *Mandagni* or a person who has just recovered from *Atisar* takes indiscriminate food may suffer from *Grahani Roga*.
- *Acharya Charaka*, while describing treatment of *Amatisara* stated that if *Sangrahi* medicine is given during *AmaAvastha* of *Atisara* may cause *Grahani Roga*.
- *Arsha* and *Atisara* may directly produce *Grahani Roga* as these are *Anyonya Nidana Bhuta Vikara*. In the *Pittaja Jwara* where *Atisara* is predominant feature may produce *Grahani Roga*.

PURVA RUPA^[11]

- In the above premonitory symptoms, *Trishna* is specific *Purva Rupa* of *Vataj* and *Pittaj Grahani*

Roga. In the former it is due to excessive roughness and in the latter due to excessive loss of fluids. Heaviness in the body and lethargy are the specific *Purva Rupa* of *Kaphaj Grahani Roga*.

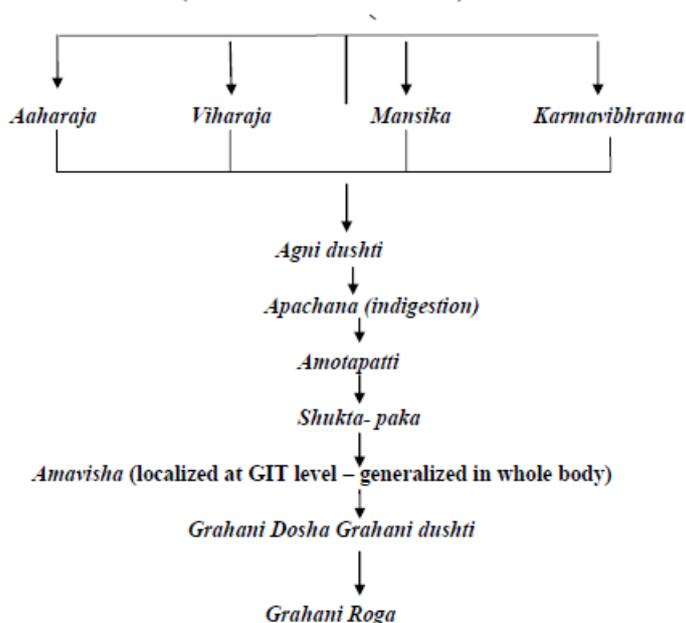
- *Trishna*
- *Alasya*
- *Balakshaya*
- *Annavidaha*
- *Annasyachirpaka*
- *Kayasya Gauravam*
- *Klama*

SAMPRAPTI

The basic pathology of *Grahani* is *Agni Dushti*; disorder of *Agni* may be *Mandagni*, *Tikshnagni* and *Vishmagni*. Among these *Mandagni* is mainly responsible for causing *Grahani Roga*. Regarding the pathogenesis of *Grahani*, *Charaka* has described that *Agni* become vitiated due to *Nidana* and fails to digest even the light food and this undigested food gets fermented leading to the onset of toxic states.

SAMPRAPTI OF GRAHANI ROGA (SCHEMATIC PRESENTATION)

NIDANA (ETIOLOGICAL FACTORS)



Samprapti Ghataka of Grahani Roga

Samprapti Ghataka of *Grahani Roga* can be summarized under the following headings:

- **Nidana** : *Aharaja, Viharaja, Manasika Karana,*
- **Dosha** : *Vayu : Samana, Apana, Vyana; Pitta-Pachaka; Kapha-Kledaka*
- **Dushya** : *Ahara Rasa, Rasa Dhatu*
- **Agni** : *Jatharagnimandya*
- **Ama** : *Jatharajanya*
- **Srotas** : *AnnavahaSrotas, Purishavaha Srotas, RasavahaSrotas*
- **Strotodusti** : *Sanga, Vimarga-Gamana, Atipravritti*
- **Udbhavasthana** : *Ama-Pakvashaya*
- **Roga Marga** : *Abhyantara*
- **Vyadhiswabhava**: *Chirakari*
- **Adhithana** : *Grahani*

CLASSIFICATION OF GRAHANI ROGA

Classification of *Grahani Roga* has been done, on the basis of etiology, speciality of *Dosha* and other specific

variety of *Grahani Roga*, into 3 groups.

(a) On the basis of etiology, *Grahani* can be divided into two types

- i. Independent i.e. *Swatantra Grahani* it develops without *Atisara*.
- ii. Dependent i.e. *Partantra Grahani Roga* – it develops after *Atisara*.

(b) On the basis of particular *Dosha* involvement *Charaka, Sushruta* and *Vagbhata* have described four varieties of *Grahani Roga*. As

1. *Vataja*
2. *Pittaj*
3. *Kaphaj*
4. *Sannipataj*

(c) Other special varieties of *Grahani Roga*

In *Madhava Nidana*^[12], *Sangraha Grahani* and *Ghatyantra Grahani* have also been described separately. In *Siddhant Nidan* five other varieties have been described in addition to the four types described by *Charaka* etc. they are

1. *Sangraha Grahani*

2. *Raja Grahani*
3. *Kshtaja Grahani*

4. *Kshyaj Grahani*
5. *Nirmoka Grahani*

RUPA OF GRAHAN

Table 2: Showing general sign and symptoms of *Grahani Roga* in various *Ayurvedic Samhitas*.

S.N.	Types of <i>Grahani Roga</i>	CS	SS	AS	AH
1.	<i>Ati-Sratmal Pravritti</i>	+		+	+
2.	<i>Koshta Badhta</i>	+	+	+	+
3.	<i>DravAmal Pravritti</i>	+	+	+	+
4.	<i>Trishna</i>	+	+		
5.	<i>Arochak</i>	+	+		
6.	<i>Asya Vairasya</i>	+	+		
7.	<i>Praseka</i>	+	+		
8.	<i>Tamkanvit</i>	+	+	+	+
9.	<i>Soon Pad</i>	+	+	+	+

Signs and symptoms of other special types of *Grahani Roga* are described in *Ayurvedic* texts are mentioned earlier. Brief description related to their signs and symptoms are given as follows.

1. *Sangraha Grahani*

It is due to predominance of *Ama* and *Vata*. It is called *Sangraha Grahani* because there is first collection of *mala* in intestine for some period then it is excreted out. It is a chronic disease which is difficult to diagnose and prognosis is grave. The sign & symptom of *Samgraha Grahani* are *Antrakujanam*, *Alasyam*, *Daurbalyam*, *Sdanam*, *Drava Shakrit Pravritti*, *Ghana Shakrit Pravritti*, *Sita Shakrit Pravritti*, *Singdha Shakrit Pravritti*, *Ama Shakrit Pravritti*, *Bahu Shakrit Pravritti*, *Picchila Shakrit Pravritti*, *Sasabda Shakrit Pravritti*, *Manda Vedana Shakrit Pravritti*, *Diva Prakop*, and *Ratrau Shanti*.

2. *Ghatyantra Grahani*

It may be due to predominance of *Vata* and should be considered as *Sannipataj Grahani*. Prognosis of the disease is also grave. The specific *Rupa* of *Ghatyantra Grahani* are as follows:

- *Swaptah Parshwayo Shulam*
- *Galajalla Gati Dhvani*

3. *Raj Grahani*

This particular type of *Grahani Roga* is mostly found in rich person. Hence, it is known *Raj Grahani*. It is difficult to diagnose and the prognosis is grave. Patient suffering from this disease do not digest fat, cereals, sugars. They often digest milk and fruits. They pass *Snigdha Sfita* and *Bhuri Shukla* stool in morning occasionally in noon. On examination tongue appears to be smooth, uncleared and of *Pandu Varna*.

4. *Kashtaj Grahani*

After *Pravahika* formation of various ulcers in the intestine lead to emergence of signs and symptoms stimulating *Grahani Roga*.

This type of *Grahani* is known as *Kashtaj Grahani*. In this sign and symptoms subside for some time and reappears. The differentiating point which may differentiate it from *Sangraha Grahani* is that occasionally there is blood in stool in case of *Kashtaj Grahani*.

5. *Kashyaj Grahani*

If the mucous membranes of intestine and glands of the intestine are caught by *Kasya* (bacillus tuberculosis) then they excrete faeces again and again that may be liquid and solid in nature. This type of *Grahani* is known as *Kashyaj Grahani*. In this type the stool may contain blood and mucous and there is pain during defecation.

6. *Nirmoka Grahani*

It is chronic and hardly treatable disease. This disease usually occurs in women of *VataPrakriti* and in children. The intestinal mucous membrane separate from its site like *Sarpa Nirmoka*. In this type of *Grahani* the patient passes stool with mucous & blood with tenesmus. This type of *Nirmoka* passed out with solid or liquid stool there is alternate constipation and diarrhoea.

UPADRAVA OF GRAHANI ROGA

Acharya Harita^[13] described six complications of *Grahani Roga* viz.

- *Pliha Yakrita Vriddhi* (hepato-splenomegaly)
- *Kandu* (itching)
- *Vibandh* (constipation)
- *Asthila*
- *Krimi*
- *Udara Roga*

IBS (IRRITABLE BOWEL SYNDROME)

Irritable bowel syndrome (IBS) is a functional bowel disorder characterized by abdominal pain or discomfort and altered bowel habits in the absence of detectable structural abnormalities. Throughout the world, about 10–20% of adults and adolescents have symptoms consistent with IBS, and most studies show a female predominance. This clinical entity is characterized by chronic (more than 3 months) abdominal pain that occurs

in association with altered bowel habits. The 2016 Rome IV consensus definition of irritable bowel syndrome is abdominal pain that has two of the following three features: (1) related to defecation, (2) associated with a change in frequency of stool, or (3) associated with a change in form (appearance) of stool. Symptoms of abdominal pain should be present on average at least 1 day per week. Other symptoms supporting the diagnosis include abnormal stool frequency; abnormal stool form (lumpy or hard; loose or watery); abnormal stool passage (straining, urgency, or feeling of incomplete evacuation); and abdominal bloating or a feeling of abdominal distention. Severity of symptoms of the disease varies and can significantly impair quality of life, resulting in

high health care costs. In the genesis of disease altered gastrointestinal (GI) motility, visceral hyperalgesia, disturbance of brain-gut interaction, abnormal central processing, autonomic and hormonal events, genetic and environmental factors, and psychosocial disturbances are variably involved, depending on the individual.

PATHOPHYSIOLOGY

The pathogenesis of IBS is poorly understood, although roles of abnormal gut motor and sensory activity, central neural dysfunction, psychological disturbances, mucosal inflammation, stress, and luminal factors such as bile acid malabsorption and gut dysbiosis have been proposed.

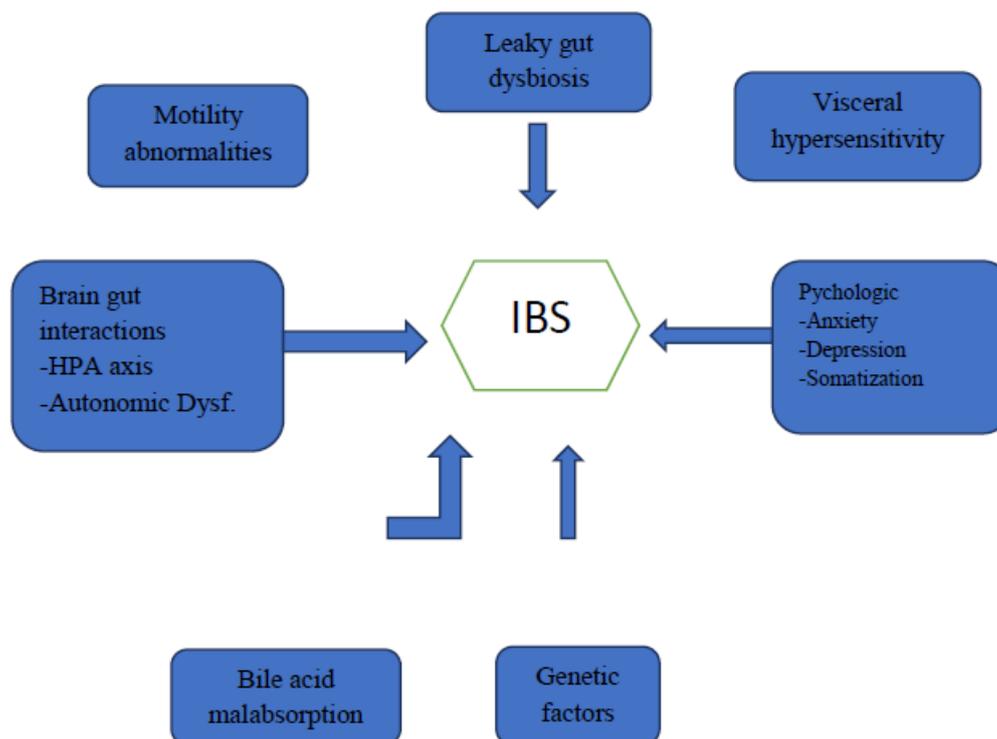


Diagram 1- Pathophysiology of IBS.

CLINICAL FINDINGS

Symptoms and Signs

Abdominal pain usually is intermittent, crampy, and in the lower abdominal region. Pain typically is associated with a change in stool frequency or form and may be improved or worsened by defecation. It is frequently episodic and crampy, but it may be superimposed on a background of constant ache. Pain may be mild enough to be ignored or it may interfere with daily activities. Abdominal pain is almost uniformly present only during waking hours. Pain is often exacerbated by eating or emotional stress and improved by passage of flatus or stools. In addition, female patients with IBS commonly report worsening symptoms during the premenstrual and menstrual phases.

Altered Bowel Habits- Alteration in bowel habits is the most consistent clinical feature in IBS. The most

common pattern is constipation alternating with diarrhea, usually with one of these symptoms predominating. In other patients, diarrhea may be the predominant symptom. Diarrhea resulting from IBS usually consists of small volumes of loose stools. Most patients have stool volumes of <200 mL. Diarrhea may be aggravated by emotional stress or eating.

Patients with irritable bowel syndrome may be classified into one of four categories based on the predominant stool habits and stool form⁴⁵:

- 1) Irritable bowel syndrome with diarrhea (IBS-D)
- 2) Irritable bowel syndrome with constipation (IBS-C)
- 3) Irritable bowel syndrome with mixed constipation and diarrhea (IBS-M)
- 4) Irritable bowel syndrome that is not subtyped.

Patients with irritable bowel and constipation report infrequent bowel movements (less than three per week), hard or lumpy stools, or straining. At first, constipation may be episodic, but eventually it becomes continuous and increasingly intractable to treatment with laxatives. Stools are usually hard with narrowed caliber, possibly reflecting excessive dehydration caused by prolonged colonic retention and spasm. Most patients also experience a sense of incomplete evacuation, thus leading to repeated attempts at defecation in a short time span. Patients may have weeks or months of constipation interrupted with brief periods of diarrhea.

Patients with irritable bowel syndrome with diarrhea refer to loose or watery stools, frequent stools (more than three per day), urgency, or fecal incontinence. In other patients, diarrhea may be the predominant symptom. Diarrhea resulting from IBS usually consists of small volumes of loose stools. Most patients have stool volumes of <200 mL. Diarrhea may be aggravated by emotional stress or eating. Stool may be accompanied by passage of large amounts of mucus.

Many patients report that they have a firm stool in the morning followed by progressively looser movements. Complaints of visible distention and bloating are common, though these are not always clinically evident.

Gas and Flatulence Patients with IBS frequently complain of abdominal distention and increased belching or flatulence, all of which they attribute to increased gas.

DIAGNOSIS

Clinical diagnosis

TABLE 320-1 Rome IV Diagnostic Criteria for Irritable Bowel Syndrome^a

Recurrent abdominal pain, on average, at least 1 day per week in the last 3 months, associated with ≥ 2 of the following criteria:

1. Related to defecation
2. Associated with a change in frequency of stool
3. Associated with a change in form (appearance) of stool

Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis.

LABORATORY FINDINGS AND SPECIAL EXAMINATIONS

-A **complete blood count** should be obtained to screen for iron deficiency anemia.

-A **fecal calprotectin** level is recommended to screen for inflammatory bowel disease; a value of greater than 50 mcg/g may warrant further endoscopic evaluation.

-Serologic testing for celiac disease (**TG IgA**) should be performed.

-**Stool specimen examinations** should be obtained in patients with increased likelihood of parasitic infection (eg, day care workers, campers, foreign travellers) for *Giardia* antigen or for multiple organisms (*Giardia*, *Cryptosporidium*, *Cyclospora*, *Entamoeba histolytica*) using nucleic acid amplification (PCR) tests.

-**Colonoscopy**-Especially In patients aged 50 years or older who have not had a previous evaluation,

Most IBS patients have impaired transit and tolerance of intestinal gas loads. In addition, patients with IBS tend to reflux gas from the distal to the more proximal intestine, which may explain the belching. Some patients with bloating may also experience visible distention with increase in abdominal girth.

Upper GI Symptoms -Between 25 and 50% of patients with IBS complain of dyspepsia, heartburn, nausea, and vomiting.

“Alarm symptoms”

The acute onset of symptoms raises the likelihood of organic disease, especially in patients older than 40–50 years.

- Nocturnal diarrhea,
- severe constipation or diarrhea,
- hematochezia,
- weight loss
- fever.
- family history of cancer, inflammatory bowel disease, or celiac disease should undergo additional evaluation.

colonoscopy should be obtained to exclude malignancy.^[14]

DIFFERENTIAL DIAGNOSIS

- 1) inflammatory bowel disease (ulcerative colitis, Crohn disease, microscopic colitis)
- 2) malabsorption (especially celiac disease, bacterial overgrowth, lactase deficiency)
- 3) chronic secretory diarrhea (carcinoid)
- 4) colonic neoplasia
- 5) hyperthyroidism or hypothyroidism
- 6) parasites
- 7) Gynecological disorders (endometriosis, ovarian cancer)
- 8) Psychiatric disorders such as depression, panic disorder, and anxiety

DISCUSSION

- *Mandagni* is the fundamental cause of all diseases, according to *rogasarveapimandagni*. *Agni dusthi* is

the primary cause of *grahani roga*. *Ashraya-ashrita bhava* is the interaction between *Grahani* and *Agni*. *Grahani* is the primary place of *agni* and the occurrence of the disease *grahani roga*. This causes symptoms such as *atishruta* and *vibaddha mala pravritt, jwara udgara*, etc.

- Nidana that disturb the agni-
 - 1- *Aharaja nidana- Abhojana*(excessive fasting), *Atibhojana*(excessive food intake), *Vishama bhojana*(improper food), *Asatyma bhojana*(unwhole some food)
 - 2- Panchkarma vyapada(Adverse effect of therapeutic measures)
 - 3- Vega vidharana(suppression of natural urges)

CONCLUSION

Due to our poor eating habits, *grahani roga* is related to food digestion and absorption. They are treated in a more prominent fashion, taking into account the *ayurvedic* idea of *agni* and administering *Deepana* and *Pachana* drugs.

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