



Case Study

PEDIATRIC MANIFESTATION OF IRRITABLE BOWEL SYNDROME AND AYURVEDIC MANAGEMENT: A CASE REPORT

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ABSTRACT

Irritable bowel syndrome (IBS) is a common and bothersome disorder in children with an increasing prevalence noted during the past two decades. It has a significant effect on the lives of affected children and their parents and poses a significant burden on healthcare systems. As the patho-physiology of IBS is multifactorial It is difficult to overcome the therapeutic demand of childhood IBS using the same conventional therapeutic agents. The treatment trials are still going on to understand the paediatric IBS and currently focusing on multiple combined interventions in modern science.

Background: A 14 years old male patient came to OPD (29/02/2020) having complaint of frequent abdominal pain with increased frequency of motion along with visible mucus discharge whole day since 15 days with frequent episodes since last 2 years.

Methodology: In Ayurveda this problem comes under *Jatharagni dusti* and the present case has been successfully treated as per treatment regimen of *Grahani chikitsa*.

Result: The complete relief has been seen in 6 weeks.

KEYWORDS: Irritable bowel syndrome (IBS), *Agnidusti*, *Grahani*.

INTRODUCTION

Irritable bowel syndrome (IBS) is a common abdominal condition affecting children and adolescents. IBS typically presents as abdominal pain and is associated with bowel changes, including diarrhea, constipation, and alternating diarrhea and constipation.¹ IBS can be negatively impact young patients' quality of life, resulting in poorer school attendance and increased healthcare expenditures.

It is a chronic disorder and common cause of recurrent abdominal pain (RAP) in children that affects the large intestine or colon.²

The exact physical cause of IBS is not known. A child with IBS may have a colon that is more sensitive than normal. Researchers believe a combination of physical and mental health problems

can lead to IBS. The possible causes of IBS in children include brain gut signal problem, gastro-intestinal motor problem, hyper-sensitivity to food, psychological problem, post bacterial gastroenteritis, genetic predisposition or family history of same problem^{3,4}.

The symptoms of each pediatric IBS patient may vary. Symptoms may include: episodic abdominal pain, change in bowel habits such as diarrhea or constipation, nausea, Feeling dizzy, loss of appetite, bloating, cramping, mucus in the stool.

Diagnosis involves assessing the patient's history and clinical symptoms and applying the Rome IV criteria^{5,6,7}. (Table-1)

Table 1: Rome IV Criteria for Irritable Bowel Syndrome (IBS) In Children

<ul style="list-style-type: none"> • Diagnostic criteria for IBS-(at least 2 months history)
<ul style="list-style-type: none"> • Abdominal pain at least 4days /month associated with one/more of the following-
<ul style="list-style-type: none"> • Related to defecation- A change in frequency/ consistency(form) of stool
In children with constipation the abdominal pain does not resolve after resolution of constipation*

Type A	Type B	Type C
IBS with predominant constipation- More than 25% of bowel movement with Bristol stool form 1,2	IBS with predominant diarrhea- More than 25% of bowel movement Bristol type 6,7	IBS with mixed type bowel habits

*Children in whom the pain resolves have functional constipation, not irritable bowel syndrome.

The Bristol Stool Scale is a diagnostic tool to evaluate samples of human feces based on the shape and consistency of the stool. Samples are then assigned a number 1–7 that corresponds to descriptions on the scale⁸. (table-2)

Table 2: Bristol Stool Scale

Type 1	Separate hard lumps, like nuts (hard to pass)	Severe constipation
Type2	Sausage shaped but lumpy	Mild constipation
Type3	Sausage shaped but with cracks on surface	normal
Type4	Sausage/snake like smooth and soft	normal
Type5	Soft blobs with clear cut edges(easy to pass)	Lacking fibre
Type6	Fluffy pieces with ragged edges, mushy	Mild diarrhea
Type7	Watery, no solid pieces(entirely liquid)	Severe diarrhea

Role of diet-as IBS is commonly attributed to ingestion of different food items such as certain carbohydrates and fats. There is some evidence that higher intake of spicy food and fried food and food allergy increase the risk of IBS. So, diet restriction is very important in management of IBS along with medication and common food items restricted in IBS are mentioned here⁹-

Table 3: Restricted food items

Fruits & vegetables	Cereals	Dairy	Other
Fructose rich fruits-apple, mango, pear, watermelon	Kidney beans, Soya bean	Milk & cheese (lactose)	Artificial sweeteners like sorbitol etc.
Green bell pepper, beetroot, brinjal /eggplant, mushroom	chickpeas	Yogurt	Honey
Cauliflower, cabbage	Wheat	Ice-cream	Corn syrup

In Ayurveda all digestive problems of stomach are related to *Jatharagni*. The specific place (*Sthana*) of this Agni is *Pittadhara kala* or *Grahani* and the *Dusti* disease is called *Grahani rog*. It is mentioned in *Samhitas* that *Grahani dusti* takes place due to the factors responsible for *Agnimandya* or *Pachakagni vikruti*.¹⁰

Therefore, the treatment of indigestion (*Ajirna*) means *Agnideepan chikitsa* is best for *Grahani roga* as mentioned in various Ayurvedic texts. Additional treatment vary as per the *Dosha* predominance because four types of *Grahani* mentioned in *Samhitas*. The etiology (*Nidan*) of *Grahani* are bad food habits like untimely food intake, heavy or excessive food intake even in indigestion, contaminated food intake etc.

There are two main treatment plan has been mentioned as per symptoms if *Sama grahni lakshana* like *Vistambh* (constipation), *Prasek* (excessive salivation), *Aruchi* (anorexia), *Udar dah* (burning), *Vedana* (pain), *Gaurav* (heaviness) present, *Shodhana chikitsa* (purification therapy) mainly *Vamana* and/

or *Virechana* required in *Kosthगत sama doshaj* condition.

If *Samata* is *Rasagat* and spread in *Sarvasharir gat/ Sarvang* then *Langhan* and *Pachan* treatment plan has been mentioned¹¹.

There are various formulations mentioned in *Grahanichikitsa adhyaya* in *Samhitas*. The importance of *Takra* is mainly highlighted in various texts. *Takra* is best for *Grahani rog* having *Madhur vipak*, *Ushna virya*, *Rukha guna pradhana*, *Vatakapha shamak* without *Pitta prakop* and mainly indicated in *kaphaj grahanirog*.¹²

Case report

A 14 years old male patient(case paper no-20/G5934; UIN=0091418) having weight 38.3kg, height 153cm, BMI=16.4 came to OPD (29/02/2020) having complaint of frequent abdominal pain with increased frequency of motion along with visible mucus discharge whole day since 15 days with frequent episodes since last 2 years. His abdominal pain was not subsided after defecation. In his

associated complaint he has loss of appetite, weakness and slow weight loss.

He has taken many allopathic medicines including Antacid (Pantoprazole), Antimicrobial drugs (Metronidazole, Ofloxacin etc.) anti-helminthic (Albendazole), Probiotics along with anti-spasmodic drug, frequently but he did not find complete relief.

In his food history he used to take mixed diet including chicken and eggs. He was frequently ingest outside fried food like Samosa, Wada pav (bread) etc.

General examination

Nadi-vatakaphaj, body feel –cold and sweaty, Jivhamanda samata, H/R=72/min, Temperature -97.6F; R/R-27/min

Systemic Examination

Gastro-intestinal system- On examination P/A soft, tenderness present (+) in epigastric and umbilical region.

No abnormality detected in other systemic examination.

Investigations

1. USG abdomen and pelvis (16th September 2019) finding- Thick and edematous visualized bowel loops at present. No evidence of lymphadenopathy in abdomen and pelvis.
2. Routine Stool test (29th feb2020)-Vegetative cells and Bacilli present (+), mucus ++; No blood, no reducing sugar.
3. Complete blood profile- Hb=14.7gm%; TLC=8000/cmm; DLC=N54 L41 E0 M4 B0 mild lymphocytosis; Platelets=351000/cmm.

Table 4: Ayurvedic Regimen

Day	Complaints	Medication
On 1 st visit (29.2.20)	Motion frequency-10/day (1motion with fecal matter and rest motion only mucus), Abdominal Pain, Anorexia, Weakness and Weight loss	1- <i>Ajmodadi churna</i> ¹³ 2 grams before food twice in a day with lukewarm water. 2- <i>Panchamrut parpati</i> ¹² 125mg + <i>Sanjivani vati</i> ¹³ 100mg+ <i>Muktashukti bhasma</i> ¹³ 125mg two times after food with honey 3- <i>Takrarista</i> ^{11,12} 15 ml two times with equal water all for 7 days
On 1 st follow up	Motion frequency 4/day (all with fecal matter no visible mucus) Increase appetite, reduce weakness and no abdominal pain	1-All of the above 2- <i>Kutaj ghan vati</i> ¹³ 1 tab three times for 7 days with lukewarm water.
On 2 nd follow up	Motion frequency 1-2/day with normal consistency Appetite more increased, no weakness, weight gain present	<ul style="list-style-type: none"> • <i>Kutaj ghan vati</i> 1 tab twice in a day for 7 days then stop • <i>Bilwavaleh</i>¹² 1 tsp two times for 15 days then stop

Diet restriction

- Dairy products like milk, paneer, cheese and excessive tea/coffee.
- Spicy and oily outside food, chicken, mutton etc.
- All types of preserved sauces like pizza sauce, schezwan sauce etc.
- Heavy to digested food like black gram, kidney bean, chickpea etc.
- Fermented food like bread, *idli-dosa* etc.

RESULT- In the present case treatment duration was near one month and it has been followed up weekly. The improvement in his sign and symptoms are as follows. (table-5)

Sign & Symptoms	1 st visit	1 st follow-up	2 nd follow-up
Motion frequency (Mala Vega)	10/day (1 with fecal matter and rest motion contain only mucus)	4/day (all 4 only fecal matter but no visible mucus)	1-2/day (only fecal matter but no visible mucus)
Consistency (as per BRISTOL)	Scale 6	Scale 4	Scale 4/3

Abdominal pain	Present and not relieved after motion	Not present	Not present
Weakness	Present	Reduced	Absent
Appetite	Low	improved	Normal
Weight loss	Present	No weight loss	No weight loss
Weight (kg)	38.3 kg (reduced from 40.5 kg)	38.6 kg	39.1kg

The motion frequency as well as consistency gradually improved with the Ayurvedic medicines along with associated symptoms like abdominal pain, anorexia etc. visible weight gain was also present on the last follow-up.

DISCUSSION

In the present case the frequent episodes of the mentioned symptoms was there since last two years. In his previous food history he was frequently ingesting outside oily fried food and meat/chicken (3-4 days per week). So, here the cause of IBS is seems to be faulty food habits responsible for *Agnidusti* and *Agnimandya* which is responsible for *Grahani dusti*. As per modern etiology it might be a case of post bacterial gastroenteritis induced IBS category B considering his food habits and stool test report. Similar concept has been mentioned in Ayurveda if diet restriction did not followed by *Atisara* patient, *Grahani dusti* occur. There was no any history of social, academic or family related mental stress as commonly seen in adult IBS cases.

As the *Prakruti* of the patient was *Kapha vata pradhan* and *Pichhil mal pravrutti* was there along with *Agnimandya*, *Kaphaj grahani* has been considered and *Ruksha, Agnideepan Tikta Rasa Pradhan Dravya*¹¹ has been chosen for the treatment. The associated generalized symptoms and chronicity of disease *Laghana* and *Pachana* line of treatment has been taken¹¹. So, the treatment has been planned to start *Deepana, Ama-pachana* medicines like *Ajmodadi Churna* before meal and *Takrarista*¹² having *Agnideepan, Gulma, Shotha, Udarrog-har* properties followed by *Rasayana* formulations like *Bilwavaleh* indicated in *Jirna pravahika* and *Shoolyukta atisar* as mentioned in Samhitas. *Takra*^{11,12} is best for *Grahani rog* having *Madhur vipaki, Ushna virya, Rukha guna pradhana, Vatakapha shamak* without *Pitta prakop* and mainly indicated in *Kaphaj grahni*¹¹. This is act as natural probiotics as indicated in the treatment of IBS in modern science. *Sanjivani vati*^{13,14} has been added along with *Panchamrut Parpati*¹², indicated in *Aruchi, Mandagni, Jirna atisara, Grahani* along with *Shouktik bhasma*¹³ best for *Kosthagatvata*. At first follow-up *Pichhil mala Pravrutti* and number of *Malappravrutti* reduced then *Kutaj ghan vati*¹³ also added

considering its *Grahi* effect and *Jirnavastha* in the previous prescription.

Along with above medication strict diet regimen was advised to get early result because diet restriction is very important in IBS. Mainly food quantity and variety gradually added as per *Agni pradepti*. The complete *Upshama* has been seen in 5-6 weeks.

CONCLUSION

Ayurveda provides a variety of herbs and formulations for gastrointestinal ailments. Encouraging results obtained in chronic gastro intestinal diseases like IBS with these formulations considering the *Dehaprakriti* and *Agni* of an individual along with diet restriction.

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