

Constipation and Ayurvedic Churn for Its Treatment

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ABSTRACT

Constipation is a highly prevalent, heterogeneous disorder that significantly affects patients' lives. Constipation is chronic in nature and dramatically affects the patient's quality of life, causing tremendous impact on both the individual patient and society as a whole. Functional constipation is a common both in adults and in children. The prevalence in children ranges from 0.7% to 29.6%. In adults, functional constipation affects between 0.7% and 79% of the general population. The prevalence is higher in females, older individuals, those of lower socioeconomic status, and those with a lower educational level. As a common and well-recognized public health problem, functional constipation influences patient quality of life and consumes many healthcare resources. This review will focus on to provide a detail account of constipation and present treatment with some ayurvedic churn for treatment of constipation.

Keywords: Constipation, Chronic, Patient, Healthcare, Churn.

INTRODUCTION

Constipation is considered as one of the common and it can be defined as the passage of small hard stool infrequently and with difficulty. Definitions of constipation vary widely, and therefore a Rome III criterion was recommended to be used in defining constipation. Constipation is a common ailment with multiple symptoms and diverse etiology. Constipation is a common complaint among the elderly. Constipation in the elderly is not simply related to the aging. It is a major feature of disorders of colorectal motility.

Primary constipation involves three pathophysiologic subtypes like slow transit, dyssynergic defecation and constipation-predominant irritable bowel syndrome. Prevalence of constipation in children ranges from 4-36%. However, the frequency tends to increase within aging, as it affects approximately 26% of men and 34% of women over 65 years of age. Although constipation can have many causes, it is most often functional or idiopathic. If constipation not treated it may responsible for colorectal cancer, distension of urinary bladder, encopresis and enuresis in children, etc.

Constipation is a common complaint for many patients; in adults, the reported prevalence ranges from 2% to 28%. Although many individuals in the United States self-medicate with over-the-counter (OTC) treatments or home remedies, constipation accounts for many physician office visits and consumes considerable health care dollars and resources each year. Report shows that about 7.95 million ambulatory care visits annually from 2001 to 2004 for this condition, up from the 2.5 million visits per year for the period 1958 to 1986. One estimate of the mean annual direct health care cost for constipation was \$7522 per patient, and the mean cost for diagnostic workup of constipation has been reported to approach \$3000 per patient. Nursing resource utilization costs of caring for long-term care residents with constipation has been estimated to be \$2252 annually per resident. Additional health care cost may be attributed to emergency department or gastroenterology specialist office visits. During the period 2001 to 2004, >1 million emergency department visits occurred annually, at a rate of 3.6 visits per 1000 population (95% CI, 3.3– 4.0). 5 Gastroenterologist visits accounted for 14.1% (95% CI, 9.8%–20.7%)

of all constipation visits during the same period. This could further contribute to the high cost of health care and resource utilization associated with constipation. In institutionalized patients >65 years of age, constipation can have a tremendous impact—it is costly to care for and manage, is associated with decreased quality of life, and if not managed adequately, can result in serious, potentially fatal complications¹⁻⁴.

This review will focus on to provide a detail account of constipation and present treatment with some ayurvedic churn for treatment of constipation.

DEFINITION AND EPIDEMIOLOGY

In general, constipation is defined as a functional bowel disorder characterized by difficult, infrequent, or incomplete defecation. However, various definitions have been used by both health care practitioners and patients to describe the condition.

Standardized criteria, such as the Rome III criteria have been composed for diagnostic purposes and are often used to define chronic functional constipation in clinical trials. To meet the definition of chronic constipation, the diagnostic criteria listed in Table II must have been present for ≥ 3 months, with symptom onset ≥ 6 months before diagnosis. Definitions such as the Rome III criteria, however, may not encompass the perceptions of all patients with constipation. A wide range of personal beliefs regarding bowel regularity exist, and numerous symptoms are expressed by patients when describing constipation. Observational studies have reported that patients' perceptions of constipation often do not meet the Rome III criteria.

Rome III definition of functional constipation

- Symptom onset at least 6 months prior to diagnosis
- Presence of symptoms for the last 3 months
- Insufficient criteria for irritable bowel syndrome
- Loose stools are rarely present without the use of laxative
- Less than three bowel movements per weeks
- Symptoms include two or more of the following during at least 25% of defecations
 - a. Straining
 - b. Lumpy or hard stool
 - c. Sensation of incomplete evacuation
 - d. Sensation of anorectal obstruction or blockade
 - e. Manual maneuvers to facilitate evacuation

Broader definitions have been proposed from the American Gastroenterological [ACG]. The ACG considers chronic constipation to be a "symptom-based disorder defined as unsatisfactory defecation and characterized by infrequent bowel movements, difficult stool passage, or both" with the presence of symptoms for ≥ 3 months. The AGA uses the

same definition of constipation without a time criterion or the designation of "chronic." Difficult stool passage (as defined by both groups) includes straining, sense of incomplete evacuation, hard/lumpy stool, prolonged time to defecate or pass stool, or need for manual maneuvers to pass stool (with the ACG also including "sense of difficulty passing stool" in their definition). Still other definitions of constipation are used by health care providers. Physicians often use the quantitative definition of < 3 bowel movements per week to describe constipation. Like the Rome III definition, this criterion may not always accurately represent the individual patient's perception of constipation. Patient definitions are often qualitative and include stool consistency (hard/lumpy); difficulty with passage (straining); requirement of manual, medicinal, or other maneuvers to evacuate feces; inability to defecate at will; or simply suffering from cramps or bloating⁵.

PREVALENCE

The reported prevalence of constipation in the literature varies greatly, depending on the definitions and the method of data collection used (eg, physician assessment, criteria based, patient self-report, survey). Although common in the general adult population, the prevalence of constipation may be even higher in older persons, especially those who are institutionalized and frail, geriatric patients with chronic comorbidities such as diabetes mellitus and heart failure, among others. Self-reported rates of constipation have ranged from 12% to 45% in community-dwelling older persons to as high as 50% to 79% in institutionalized geriatric patients⁶.

ETIOLOGY

Constipation can be classified as primary or secondary. Primary constipation may be further divided into subtypes: normal transit (or functional), slow transit, and disordered defecation, also referred to as anorectal dysfunction, rectal outlet delay, pelvic floor dyssynergia, or paradoxical pelvic floor contraction. Physiologic subtypes of chronic constipation generally cannot be distinguished symptomatically, although, historically, symptoms were thought to suggest the presence of disordered defecation (eg, the need for support or pressure to the perineum and/or vagina or digitations of the rectum to facilitate rectal emptying). Patients with primary constipation may have a combination of these subtypes. In an evaluation 33 of 1000 patients referred to a tertiary care center due to intractable constipation, 59% were identified as having normal-transit constipation, 28% with pelvic floor dysfunction (with or without slow transit), and 13% with slow-transit constipation. Because pelvic floor dysfunction and slow-transit constipation are less

common (as stated), it is not generally recommended to begin diagnostic workup for these constipation subtypes initially in most patients. It may be warranted to proceed with more definitive diagnostic workup in patients who have not responded satisfactorily to trials of normally recommended laxatives, because appropriate treatment of constipation due to slow transit or disordered defecation may differ. Secondary constipation may be due to medications, disease conditions or abnormalities, lifestyle factors, or psychogenic conditions. It was previously believed that lifestyle factors linked to the development of constipation included lack of adequate fiber, fluids,

and exercise. Recommendations addressing these lifestyle interventions have remained part of the management strategy for preventing and treating constipation despite a lack of evidence to support their efficacy. Other secondary causes of constipation include underlying diseases or drug therapy. Drug-related causes of constipation are important to identify, especially in patients taking numerous daily medications, which may often be the case for older individuals⁷. Common secondary causes of constipation and Medications associated with constipation in older persons are listed in Table No. 1

Table 1: Causes of Constipation

No	Condition	Possible cause
1	Gastrointestinal causes	Irritable bowel syndrome Upper gastrointestinal disorder Anal and rectal disorders Hemorrhoids and anal fissure Ulcerative proctitis Tumors Hernia Volulus of the bowel Syphilis Tuberculosis Helminthic infection Lymphogranuloma venereum Hirschsprungs disease
2	Metabolite and endocrine disorder	Diabetes mellitus with neuropathy Hypothyroidism Panhypopituitarism Pheochromocytoma Hypercalcemia Enteric glucagon excess
3	Pregnancy	Depressed gut motility Increase fluid absorption from colon Decreased physical activity Dietary changes Inadequate fluid intake Low dietary fiber Use of iron salt
4	Neurogenic causes	Disease of central nervous system Trauma of brain specially medulla Spinal cord injury Tumors of central nervous system Cerebrovasculr accidents Parkinson's disease
5	Psychogenic causes	Ignoring or postponing urge of defecation Psychiatric condition
6	Medication	Inhibitors of PG Analgesic Opiate drug Anticholinergic Antihistaminic drug Antiparkinsonian agents (Benzatropine) Phenothiazines Tricyclic antidepressant Antacids containing calcium Barium sulfate Calcium channel blockers Clonidine Diuretics (Non potassium sparing) Ganglionic blockers Iron preparations Muscle blockers (d -tuberculin) Non-steroidal anti-inflammatory agents Polystyrene sodium sulfonate

DIAGNOSIS

Routine diagnostic testing is not recommended in all constipated patients in the absence of warning signs (e.g. hematochezia, anemia, family history of colorectal cancer, and unintentional weight loss). In general, the yield of diagnostic testing is low and treatment should be individualized with an emphasis on symptom improvement. Patients who continue to have persistent symptoms despite medical therapy are frequently referred for colonoscopy to exclude mechanical obstruction, although this test does not provide any meaningful data on colorectal function. Anorectal manometry with a balloon expulsion test can help identify patients with an evacuation disorder due to pelvic floor dysfunction, while a Sitz mark study can be used to assess colonic transit. The Sitz mark study is not required for all patients with symptoms of constipation, however, and is best suited for those patients thought to have slow transit constipation (colonic inertia).

In some patients with persistent symptoms of constipation, a Sitz mark test may be difficult to perform, however, due to a lack of ready access to a radiology suite, while in other patients with overlapping symptoms suggestive of an upper gastrointestinal (GI) tract motility disorder, more comprehensive testing may prove useful. As well, there is a lack of standardization regarding the performance of a Sitz mark study, and there are appropriate concerns about radiation exposure. For these reasons, a new diagnostic test was developed, called the wireless motility capsule. The wireless motility capsule, given the name Smart Pill by the manufacturers (Smart Pill Corporation, Buffalo, NY), is similar in size to a video capsule (27 mm × 12 mm). This single-use capsule contains sensors to measure temperature (range of 25–49°C), pH (range of 0.05–9.0 pH units), and pressure (range of 0–350 mmHg). The study begins by having the patient ingest a standard meal (a 260 kcal nutrient ‘Smart Bar’) along with 50 ml of water. The capsule is then activated and the patient swallows

the capsule. For the next 3–5 days the patients wears a receiver and performs his/her usual activities. After the capsule has passed through the GI tract the data is downloaded to a computer for analysis. Transit time throughout the entire GI tract can be measured (also called the whole gut transit time). In addition, using changes in pH values and changes in pressure recordings, the wireless motility capsule can be used to measure individual components of whole gut transit, including gastric emptying, small bowel transit, and colonic transit. The wireless motility capsule (Smart Pill) was approved by the FDA in July 2006. It is not approved for use in the pediatric population. Contraindications to use include: dysphagia; known strictures, fistulas, or mechanical obstruction of the GI tract; surgery to the GI tract within the past 3 months; Crohn’s disease; diverticulitis; and the presence of cardiac defibrillators and infusion pumps⁸⁻¹³.

AYURVEDIC CHURNS FOR TREATMENT OF CONSTIPATION

Generally, ayurvedic medicines are the combinations of selected herbal/crude drugs and are manufactured under different pharmaceutical processes to result in various dosage forms such as churnas, bhasmas, liquid, lehas, pill, tablet etc. Churna is defined as a fine powder of drug or drugs in ayurvedic system of medicine. Drugs mentioned in patha are cleaned properly, dried thoroughly, pulverized and then sieved. The churna is free flowing and retains its potency for one year, if preserved in airtight containers. Churna formulations are similar to powder formulations in allopathic system of medicine. In recent days churna is formulated into tablets in order to fix the dose easily. These forms of medicament are prescribed generally because of their particle size. Smaller the particle size greater is the absorption rate from g.i.t and hence the greater is bioavailability.

Table 2: Churn used in Treatment of Constipation¹⁴⁻²⁰

No	Name of churn	Common name	Botanical Name	Quantity for 10 gm or part
1	Gandharva Haritaki Churna	Bal haritaki	<i>Terminalia chebula</i>	6.5mg
		Erand oil	<i>Ricinus communis</i>	1.6mg
		Sunthi	<i>Zingiber officinales</i>	0.6mg
		Sandav lavana	<i>Sodium chloride impure</i>	0.7mg
		Savarchal	Black salt	0.2mg
		Pippali	<i>Piper longum</i>	0.5mg
2	Avipattikar Churna	Sunthi	<i>Zingiber officinales</i>	75mg
		Pippali	<i>Piper longum</i>	75 mg
		Marica	<i>Piper nigrum</i>	75 mg
		Haritaki	<i>Terminalia chebula</i>	75 mg
		Baihitaki	<i>Terminalia belerica</i>	75 mg
		Amalaki	<i>Emblica officinalis</i>	75 mg
		Musta	<i>Cyperus rotundus</i>	75 mg

		Vida lavana	Black salt	75 mg
		Vidanga	<i>Embllica ribes</i> Burm	75 mg
		Suksmaila	<i>Ellettaria cardamomum</i>	75 mg
		Tejpatra	<i>Cinnamonium tamala</i>	75 mg
		Lavanga	<i>Eugenia carvophyllus</i>	8.33mg
		Nisottar	<i>Operculina turpethum</i>	3.33 gm
		Sarkara	Sarkara (Sugar)	5.0 gm
3	Tekshan Virechana churna	Indryan root	<i>Citrullus colocynthis</i>	1 part
		Nisottar (Nishode)	<i>Operculum turpenthum</i>	2 part
		Kaladana	<i>Ipomoea hederacea</i>	2 part
		Senna	<i>Cassia angustifolia</i>	2 part
		Haritaki	<i>Terminalia chebula</i> (Outer pericarp only)	1 part
		Vida lavana	Black salt	1 part
4	Triphala churna	Haritaki	<i>Terminalia chebula</i> (Outer pericarp only)	1 part
		Baihitaki	<i>Terminalia belerica</i> (Outer pericarp only)	1 part
		Amalaki (Amla)	<i>Embllica officinalis</i> (without seed)	1 part
5	Panchasakar Churna	Senna (Sannya)	<i>Cassia angustifolia</i>	4 part
		Sunthi	<i>Zingiber officinales</i>	1 part
		Saunf	<i>Foeniculum vulgare</i>	1 part
		Saindhava lavana	Rock salt	1 part
		Haritaki	<i>Terminalia chebula</i> (Fried in castor oil)	2 part
6	Panchsam churna	Pippali	<i>Piper longum</i>	All be taken in equal part
		Haritaki	<i>Terminalia chebula</i>	
		Sunthi	<i>Zingiber officinales</i>	
		Nisottar (Nishode)	<i>Operculum turpenthum</i>	
		Vida lavana	Black salt	
7	Lavan Bhaskar churna	Dahanya	<i>Coriandrum satavum</i>	2 part
		Pippali	<i>Piper longum</i>	2 part
		Pippali root	<i>Piper longum root</i>	2 part
		Shajera	<i>Carum carvi</i>	2 part
		Tejpatra	<i>Cinnamonium tamala</i>	2 part
		Nagkesar	<i>Mesua ferrea</i>	2 part
		Amlvet	<i>Abies webbiana</i>	2 part
			<i>Garcina pedunculata</i>	2 part
		Marica	<i>Piper nigrum</i>	1 part
		Jera	<i>Cuminum cyminum</i>	1 part
		Sunthi	<i>Zingiber officinales</i>	2 part
		Anar seed	<i>Punica grantum</i>	5 part
		Dalchni	<i>Cinnamomum zelylanicm</i>	6 part
		Cardamom (Big)	<i>Elettaria cardamomum</i>	6 part
		Namak	Sea salt	8 part
		Sachar salt	Saurachala salt	5 part
		Shendha salt	Rock salt	2 part
		Kala salt	Black salt	2 part
8	Madhur Virechana churna	Jestha madhu	<i>Glycyrrhiza glabra</i>	2 part
		Saunf	<i>Foeniculum vulgare</i>	1 part
		Senna	<i>Cassia angustifolia</i>	3 part
		Gandhak	Sulphur	1 part
		Meshri	Meshri	6 part
9	Madhuysthadi churna	Kaladana	<i>Ipomoea hederaceae</i>	1 part
		Senna (Sannya)	<i>Cassia angustifolia</i>	1 part
		Haritaki	<i>Terminalia chebula</i>	1 part
		Gulbh petal	<i>Rosa damascene</i>	1 part
		Sunthi	<i>Zingiber officinales</i>	6 part
		Meshri	Meshri	2 part
10	Hingwashtak Churna	Marica	<i>Piper nigrum</i>	All be taken in equal part
		Pippali	<i>Piper longum</i>	
		Sunthi	<i>Zingiber officinalis</i>	
		<i>Nigella sativa</i>	<i>Nigella sativa</i>	
		Ajowan	<i>Trachyspermum ammi</i>	
		Hing	<i>Ferula foetida</i>	
		Saindhava lavana	Rock salt	
11	Mal-shodhak churna	Haritaki	<i>Terminalia chebula</i>	All be taken in equal part
		Pippali	<i>Piper longum</i>	
		Sunthi	<i>Zingiber officinales</i>	

		Pippali root	<i>Piper longum</i>	
		Kala Jera	<i>Bunium persicum</i>	
		Musta (Nagarrmotha)	<i>Cyperus rotundus Linn</i>	
		Nisottar (Nishode)	<i>Operculum turpenthum</i>	
		Amalaki (Amala)	<i>Embellica officinalis</i>	
		Bhumi amala	<i>Phyllanthus niruru</i>	
		Vida lavana	<i>Black salt</i>	
		Vidanga (vaivding)	<i>Embelia ribes</i>	
		Lavanga	<i>Eugenia carophyllus</i>	
		Tejpatra	<i>Cinnamomum tamala</i>	
		Kuth	<i>Saussurea costus</i>	
		Hing	<i>Ferula foetida</i>	
		Chitrak	<i>Plumbago zeylanica</i>	
12	Saral Virechana churna	Senna (Sannya)	<i>Cassia angustifolia</i>	16 part
		Anar seed	<i>Punica grantum</i>	16 part
		Haritaki	<i>Terminalia chebula (Big size)</i>	4 part
		Amalaki (Amala)	<i>Embellica officinalis</i>	4 part
		Kala Jera	<i>Bunium persicum</i>	4
		Vida lavana	<i>Black salt</i>	4
		Shendha salt	<i>Rock salt</i>	6 part
13	Sukha Virechana churna	Nisottar (Nishode)	<i>Operculum turpenthum</i>	6 part
		Kaladana	<i>Ipomoea hederaceae</i>	3 part
		Saunf	<i>Foeniculum vulgare</i>	6 part
		Senna (Sannya)	<i>Cassia angustifolia</i>	3 part
		Haritaki	<i>Terminalia chebula</i>	3 part
		Gulbh petal	<i>Rosa damascene</i>	3 part

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