UNIT NO. 5

APPROACH TO LOWER GASTROINTESTINAL CONDITIONS

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ABSTRACT

There is a huge range of lower gastrointestinal conditions that could give rise to numerous forms of symptoms. The purpose of this approach is not to list and regurgitate every single one of them (that could be found in almost all standard comprehensive textbooks) but to suggest a systematic approach when examining a patient who present with associated symptoms. A few important and relevant tables and flow charts have also been added on to aid in the management.

The commonest symptoms presented to the family physician by patients with lower gastrointestinal conditions would include constipation, diarrhoea, lower abdominal pain as well as lower gastrointestinal bleeding. As such, I will be presenting the approaches as follow:

1) **What to look out for in a patient with:**
   a. **Lower abdominal pain**
   b. **Chronic diarrhoea**
   c. **Chronic constipation**
2) **Symptoms and signs of lower gastrointestinal bleeding**

SFP 2008; 35(1): 29-34

WHAT TO LOOK FOR IN A PATIENT WITH LOWER ABDOMINAL PAIN

This is a very common presenting symptom. It is frequently a benign symptom but could also herald serious acute pathology.

History

It is very important to elicit a detailed history as this can suggest source of abdominal pain. Pain can be categorized into:

Nature of pain

- Visceral pain – usually dull, aching though can be colicky. Often poorly localized. Arises from distension or spasm of a hollow organ (e.g. cholecystitis).
- Parietal pain – sharp, well localized. Arises from peritoneal irritation e.g. appendicitis with inflammation spread to parietal peritoneum.
- Referred pain – aching and perceived to be near the body surface.

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Location

Appendicitis classically produces pain in right iliac fossa (or periumbilical pain initially). Diverticulitis usually present as left iliac fossa pain.

Pain radiation

Pancreatitis pain usually radiates to the back; ureteric pain usually radiates from loin to groin.

Onset

Viscus rupture pain (e.g. abdominal aortic aneurysm rupture) is usually abrupt and maximal from onset. Pancreatitis pain is typically gradual and steady.

Quality

Colicky (intestinal obstruction or gastroenteritis). Gnawing pain may suggest peptic ulcer disease.

Severity

Renal or biliary colic are usually of high intensity. Gastroenteritis pain is usually less marked.

Aggravating or relieving factors

Mesenteric ischaemia usually starts within one hour of eating whereas duodenal ulcer is usually relieved by food and aggravated by hunger. Pancreatitis pain is classically relieved by sitting up and leaning forward. Patient with peritonitis often lie motionless on their back.

Associated symptoms

Symptoms of weight loss, gastric outlet obstruction or change in bowel habit should be elicited from patient's history.

Female patients

Details regarding menstrual history and, if relevant, sexual activity may be relevant.

Extra-abdominal causes of acute lower abdominal pain

Porphyria, radiculitis, Henoch Schonlein purpura, narcotic withdrawal, heat stroke.

Physical Examination

General inspection

- Is patient writhing in agony or motionless?
  – Opiate administration may alter physical findings but does not cause management errors[1]
- Vital signs
- Hydration status, jaundice, pallor

Abdominal examination

- Inspection
- Superficial and deep palpation
  - Guarding, rigidity, rebound tenderness
  - Abdominal wall pathology (pain when sitting up)
- Percussion
- Shifting dullness
- Auscultation – bowel sounds, bruit
- Per rectal or per vaginal examination

WHAT TO LOOK OUT FOR IN A PATIENT WITH CHRONIC DIARRHOEA

Definition of diarrhoea is traditionally based on frequency, volume and consistency but relationship between these variables and patients' perception is variable. American Gastroenterological Association defined chronic diarrhoea as decrease in faecal consistency for at least 4 weeks.

As with abdominal pain, there is a myriad of disorders associated with chronic diarrhoea. Again the importance of a detailed history taking as well as an adequate physical examination cannot be over-emphasised.

WHAT TO LOOK OUT FOR IN A PATIENT WITH CHRONIC CONSTIPATION

Usually defined as stool frequency of less than 3 times per week based on epidemiological studies in US and UK. Others may include symptoms of hard stools, small stool caliber or difficult defaecation as constipation.

Numerous diseases associated with constipation are listed in Table 4. Patients with constipation predominant or mixed pattern irritable bowel syndrome also usually experience such constipation.

Evaluation

Again a careful history taking and physical examination are important. A systematic review concluded that there was insufficient evidence to support the routine use of blood tests (including serum calcium and thyroid function tests), radiography or endoscopy in the routine evaluation of patients with constipation without alarm features such as haematochezia, weight loss, family history of colon cancer or inflammatory bowel disease, anaemia, positive faecal occult blood tests or acute onset of constipation in elderly patients[5].

History taking should include a detailed drug history (if any), systemic or neurological disorders, associated alarm symptoms.

Physical examination

Abdominal examination might elicit abdominal distension or mass. Bowel sounds activity may be helpful to the diagnosis. Peripheral examination to exclude pallor or lymph nodes are obviously important. Per rectal examination is important to diagnose anal fissure, haemorrhoids, gaping or asymmetric anal opening, etc.

If secondary causes of constipation have been ruled out and the symptom remains unresponsive to standard treatment, referral to a gastroenterologist for a detailed workout may be appropriate and beneficial.

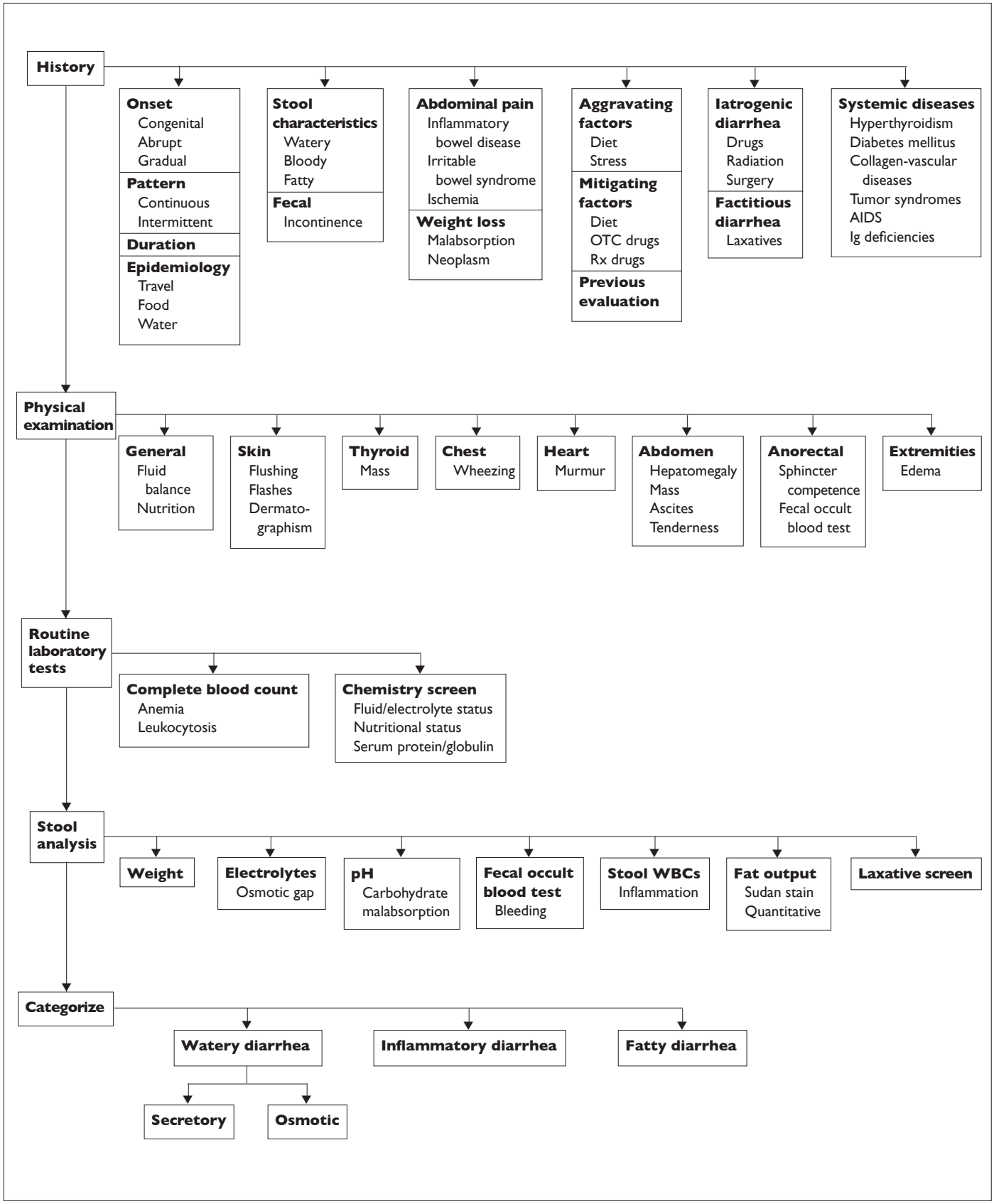
Table 1: Comparison of common causes of acute lower abdominal pain[2]

Condition	Onset	Location	Character	Description	Radiation	Intensity
Appendicitis	Gradual	Periumbilical early; RIF late	Diffuse early, localized late	Aching	RIF	Moderate
Diverticulitis	Gradual	LIF	Localised	Aching	None	Mild to moderate
Mesenteric ischaemia/ infarction	Sudden	Periumbilical	Diffuse	Agonising	None	Severe
Ruptured abdominal aortic aneurysm	Sudden	Abdominal, back, flank	Diffuse	Tearing	Back, flank	Severe
Gastroenteritis	Gradual	Periumbilical	Diffuse	Spasmodic	None	Mild to moderate
Pelvic inflammatory disease	Gradual	Iliac fossa or pelvis	Localised	Spasmodic, aching	None, upper thigh	Moderate
Ruptured ectopic pregnancy	Sudden	Iliac fossa or pelvic	Localised	Spasmodic, aching	None	Moderate

Table 2: Localisation of common causes of acute lower abdominal pain

Right lower quadrant	Appendicitis, terminal ileitis, Crohn's disease, Ectopic pregnancy, tuboovarian disorders, renal disorders, right ureteric calculus, pyelonephritis, pyogenic sacroileitis
Left lower quadrant	Acute diverculitis, infective or inflammatory colitis, pyogenic sacroileitis, tubo-ovarian disorders
Diffuse abdominal pain	Peritonitis, appendicitis, diverticulitis, IBD, perforated peptic ulcer, haemorrhagic pancreatitis, post-operative

Flow chart 1: Evaluation and management of chronic diarrhoea[3]



Flow chart 2: Evaluation based on various classification of chronic diarrhoea[3]

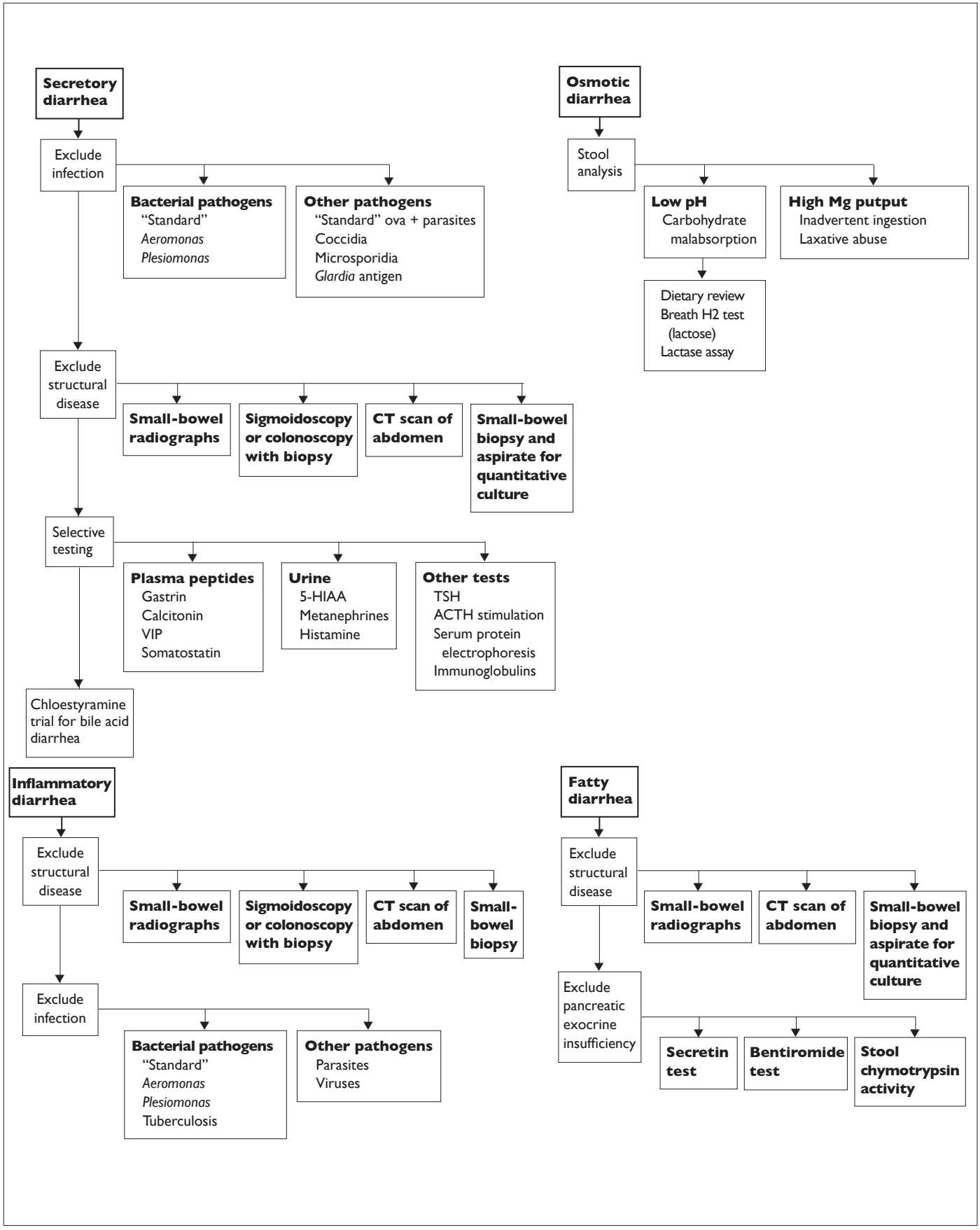


Table 3: Major causes of chronic diarrhoea characterisised by typical stool characteristics[3]

Osmotic diarrhoea	**Secretory diarrhoea**
Mg, P04, S04 ingestion	Laxatives abuse (non-osmotic laxatives)
Carbohydrate ingestion	Post cholecystectomy (from bile salts)
	Congenital syndrome (chloridorhoea)
Fatty diarrhoea	Bacterial toxins
Malabsorption syndrome	Ileal bile acid malaborption
Mucosal diseases	Inflammatory bowel disease
Short bowel syndrome	Ulcerative colitis
Post resection diarrhoea	Crohn's disease
Small bowel bacterial overgrowth	Microscopic (lymphocytic) colitis
Mesenteric ischaemia	Collagenous colitis
Maldigestion	Diverticulitis
Pancreatic exocrine insufficiency	Vasculitis
Inadequate luminal bile acid	Drugs and poisons
	Disordered motility
Inflammatory diarrhoea	Post vagotomy diarrhoea
Ulcerative colitis	Post sympathectomy diarrhoea
Crohn's disease	Diabetic autonomic neuropathy
Diverticulitis	Hyperthyroidism
Ulcerative jejunoileitis	Irritable bowel syndrome
Infectious diseases	Neuroendocrine tumour
Pseudomembranous colitis	Gastrinoma
Invasive bacterial infections	Vipoma
Tuberculosis, yersinosis	Somatostatinoma
Ulcerating viral infections	Mastocytosis
Cytomegalovirus	Carcinoid syndrome
Herpes Simplex	Medullary thyroid carcinoma
Amoebiasis, other invasive parasites	Colon cancer
Ischaemic colitis	Lymphoma
Radiation colitis	Villous adenoma
Neoplasia	Addison's disease
Colon cancer	
Lymphoma	

Rome III diagnostic criteria* for irritable bowel syndrome[4]

Recurrent abdominal pain or discomfort** at least 3 days per month in the last 3 months associated with 2 or more of the following

(1) Improvement with defecation

(2) Onset associated with a change in frequency of stool

(3) Onset 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.

** Discomfort means an uncomfortable sensation not described as pain. In pathophysiology research and clinical trials, a pain/discomfort frequency of at least 2 days a week during screening evaluation for subject eligibility.

Table 4. Common Medical Conditions Associated With Constipation[6]

Drug effects (See Table 6)	Heavy metal poisoning
Mechanical obstruction	Myopathies
Colon cancer	Amyloidosis
External compression from malignant lesion	Scleroderma
Strictures: diverticular or postischemic	Neuropathies
Rectocele (if large)	Parkinson's disease
Postsurgical abnormalities	Spinal cord injury or tumor
Megacolon	Cerebrovascular disease
Anal fissure	Multiple sclerosis
Metabolic conditions	Other conditions
Diabetes mellitus	Depression
Hypothyroidism	Degenerative joint disease
Hypercalcemia	Autonomic neuropathy
Hypokalemia	Cognitive impairment
Hypomagnesemia	Immobility
Uremia	Cardiac disease

Table 5. Definitions of Constipation[7]

Diagnostic criteria for functional constipation

At least 12 weeks, which need not be consecutive, in the preceding 12 months of two or more of the following:

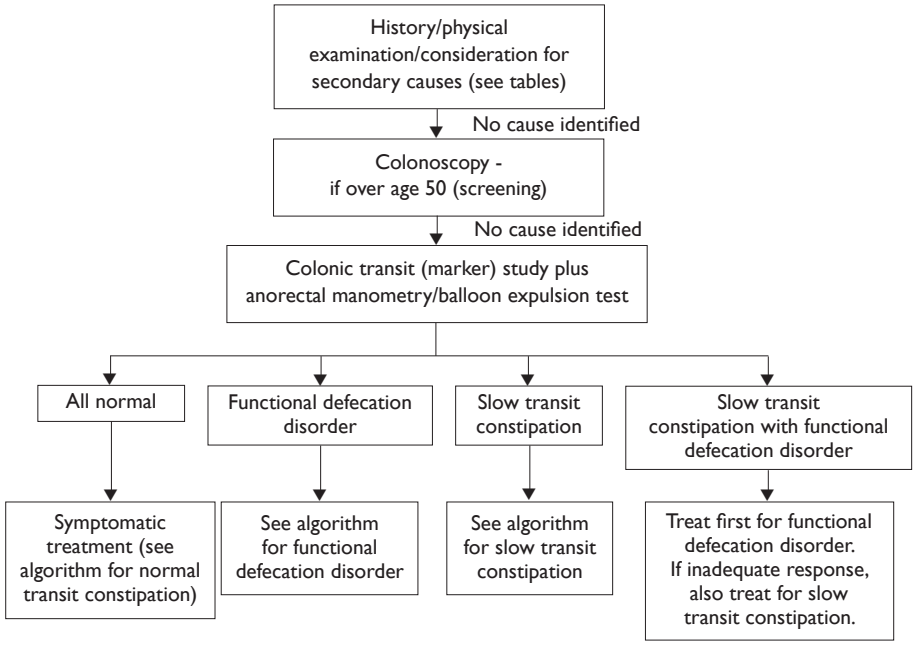
1) Straining in > 1/4 defecations
2) Lumpy or hard stools in > 1/4 defecations
3) Sensation of incomplete evacuation in > 1/4 defecations
4) Sensation of anorectal obstruction/blockade in > 1/4 defecations
5) Manual maneuvers to facilitate > 1/4 defecations (e.g., digital evacuation, support of the pelvic floor) and/or
6) < 3 defecations/week

Loose stools are not present, and these are insufficient criteria for IBS.

Table 6: Drugs associated with constipation[6]

Analgesics	Aluminum (antacids, sucralfate)
Anticholinergics	Neurally active agents
Antihistamines	Opiates
Antispasmodics	Antihypertensives
Antidepressants	Ganglionic blockers
Antipsychotics	Vinca alkaloids
Cation-containing agents	Calcium channel blockers
Iron supplements	5HT3 antagonists

Flow chart 3: Diagnostic approach to chronic constipation unresponsive to conservative therapy[6]



SYMPTOMS AND SIGNS OF LOWER GASTRO-INTESTINAL BLEEDING

These section is fairly straight forward as the cardinal symptom and sign of lower GI bleeding is per rectal passage of fresh blood.

This is unlike upper GI bleeding where patient usually present with malaena or maroon coloured stools. However, similar symptom may occasionally be noted in severe, torrential upper GIT bleeding.

If the lower gastrointestinal bleeding is severe, there may be associated symptoms of lethargy, weakness, giddiness, breathlessness or diaphoresis. Otherwise, most mild lower gastrointestinal bleeding is asymptomatic other than the passage of fresh blood.

Important associated signs of lower GI bleeding will include that of hypotension, tachycardia, diaphoresis, breathlessness, dehydration (reduced skin tugor), pallor, perianal pain or lump (anal fissure or haemorrhoids).

CONCLUSION

As mentioned earlier on, it is not the intention of this short paper to talk everything about lower GIT conditions. This will not be possible at all due to limitations here. However, I hope that these concise approaches will help to make diagnosis of lower GIT conditions easier and faster. Appropriate and early referral to emergency dept or gastroenterologist should be carried out if necessary after the initial diagnosis.

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LEARNING POINTS

- **The commonest symptoms of patients with lower gastrointestinal conditions are:**
  a. **lower abdominal pain**
  b. **chronic diarrhoea**
  c. **chronic constipation**
  d. **passage of fresh blood per rectum**
- **In patients with constipation presence of alarm features warrants further investigations such as blood tests, radiography or endoscopy.**