Constipation in family medicine

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Objectives

- **Define and Classify Constipation according to age**
- **Identify Causes and types**
- **Develop Diagnostic Skills.**
- **Formulate Management Plans**
- **Recognize indication of referral.**

Rome IV Diagnostic Criteria for Functional Constipation

- For a diagnosis of functional constipation, the following criteria must be met for the **last 3 months**, with symptom onset at least **6 months prior to diagnosis**:
  Must include two or more of the following:
  1. Straining during more than **25% of defecations**.
  2. Lumpy or hard stools (Bristol Stool Form Scale types 1-2) in more than **25% of defecations**.
  3. Sensation of **incomplete evacuation** in more than **25% of defecations**.
  4. Sensation of **anorectal obstruction/blockage** in more than **25% of defecations**.
  5. **Manual maneuvers** required to facilitate defecation (e.g., digital evacuation, support of the pelvic floor) in more than **25% of defecations**.
  6. Fewer than **3 spontaneous bowel movements per week**.

Loose stools are rarely present without the use of laxatives.

Insufficient criteria for irritable bowel syndrome (IBS): The symptoms do not meet the diagnostic criteria for IBS (i.e., abdominal pain is not a predominant symptom).

- However, the clinical emphasis should be on the consistency of the stool rather than on the frequency of defecation
- Example, a person passing a hard stool with difficulty once or twice a day is defined as constipated, but the person who passes a soft stool comfortably every two or three days does not require any diagnosis.

Causes of constipation in adults.

- **Most common**
  - Inadequate fiber or fluid intake
  - Poor bowel habits
- **Systemic disease**
  - Endocrine: hypothyroidism, hyperparathyroidism, diabetes mellitus
  - Metabolic: hypokalemia, hypercalcemia, uremia, porphyria
  - Neurologic: Parkinson disease, multiple sclerosis, sacral nerve damage (prior pelvic surgery, tumor), paraplegia, autonomic neuropathy
- **Medications**
  - Opioids
  - Diuretics
  - Calcium channel blockers
  - Anticholinergics
  - Psychotropics
  - Calcium and iron supplements
  - NSAIDs
  - Clonidine
  - Cholestyramine
- **Structural abnormalities**
  - Anorectal: rectal prolapse, rectocele, rectal intussusception, anorectal stricture, anal fissure, solitary rectal ulcer syndrome
  - Perineal descent
  - Colonic mass with obstruction: adenocarcinoma
  - Colonic stricture: radiation, ischemia, diverticulosis
  - Hirschsprung disease
  - Idiopathic megarectum
- **Slow colonic transit**
  - Idiopathic: isolated to colon
  - Psychogenic
  - Eating disorders
  - Chronic intestinal pseudo-obstruction
- **Pelvic floor dyssynergia**
- **Irritable bowel syndrome**

Key facts and checkpoints

- The survey showed 10% of adults and 6% of children reported constipation in the preceding 2 weeks.
- Up to 20% of adults take laxatives.
- Constipation from infancy may be due to a Congenital disorder.
- Diet is the single most important factor in preventing constipation.
- Beware of recent-onset constipation in the middle-aged and the elderly—Ca??
- Bleeding suggests cancer, haemorrhoids, diverticular disorder, and inflammatory bowel disease.
- Always examine the abdomen and rectum.
- Plain abdominal X-rays are generally not useful in diagnosing chronic constipation.
- The flexible sigmoidoscope examines the lower bowel in detail.
- Intractable constipation (obstipation) is a challenge at both ends of the age .

Chronic constipation: diagnostic model

Probability diagnosis

- Functional constipation
- primary—slow transit, dyssynergia defecation
- lifestyle—diet, low fluids, bad habits

Serious disorders not to be missed

- Intrinsic neoplasia: colon, rectum, or anus, especially colon cancer
- Extrinsic malignancy (e.g. lymphoma, ovary)
- Hirschsprung (children)

Pitfalls (often missed)

- Impacted faeces
- Local anal lesions, e.g. fissures, hemorrhoids
- Drug laxative abuse
- Hypokalemia
- Depression
- Acquired megacolon
- Diverticular disease
- Stricture, e.g. Crohn's disease

Rarities:

- lead poisoning
- hypercalcemia
- hyperparathyroidism
- megarectum

Probability diagnosis

- **The commonest is ‘idiopathic’ constipation where there is no structural or systemic disease.**
- **This is also referred to as ‘functional’ constipation.**
- **Probably the most frequent single factor causing constipation is a deficiency in dietary fiber, including fruit, green leafy vegetables, and wholemeal products.**
- **The amount of fiber in our diet is directly related to stool weight and colonic transit time.**
- **The average colonic transit time in the large bowel is 60 hours**
- **Other compounding factors are dehydration, lack of physical activity, and inappropriate bowel habits.**
- **Constipation is also a common problem in pregnancy.**

Serious disorders not to be missed

Neoplasia

- **It is obvious that colonic or anorectal neoplasms must not be missed, especially in a middle-aged or elderly person presenting with constipation or change in bowel habit.**
- **Undetected neoplasia's eventually present with bowel obstruction (complete or incomplete).**
- **Extrinsic malignancy, such as lymphoma or ovarian cancer, compressing or invading the rectum also has to be considered.**
- **Cancer of the large bowel is prevalent and those aged 50–74 years should be strongly encouraged to participate in the National Bowel Cancer Screening Program.**

Neurological disorders

- **Constipation, often with faecal impaction, is a common accompaniment to paraplegia, multiple sclerosis, cerebral palsy and autonomic neuropathy.**

Alarm symptoms

- Recent constipation in >40 years of age
- Rectal bleeding/hematochezia (fresh blood)
- Family history of cancer
- Positive fecal occult blood test.

Pitfalls

The pitfalls can be summarised as follows:

- **impacted faeces**
- **depressive illness**
- **Laxative abuse**
- **local anal lesions**
- **medications**

Those with impacted faeces often present with spurious (paradoxical) diarrhoea.

This is a form of idiopathic constipation and is very commonly encountered in general practice, especially in bedridden elderly people.

Anal pain or stenosis, such as fissure-in-ano, thrombosed haemorrhoids, perianal haematoma or ischiorectal abscess, leads to constipation because the person is hesitant to defecate.

General pitfalls and tips

- **Ensure the person is truly constipated and not having unrealistic expectations of regularity.**
- **Ensure that the stimulant group of laxatives, is never used long term because they cause melanosis coli and associated megacolon.**
- **Be very wary of alternating constipation and diarrhea (e.g. colon cancer).**
- **A normal rectal examination does not exclude cancer.**

Seven checklist

Three of the important causes of constipation namely

- **drugs, depression, and hypothyroidism.**
- **Many drugs may be associated with constipation, especially codeine and its derivatives, antidepressants, aluminium and calcium antacids.**
- **Cations that constipate include barium, calcium, aluminium, iron, bismuth.**
- **A careful drug history is thus mandatory, because fortunately the constipation usually resolves once the drug is withdrawn.**
- **Constipation can be a significant symptom in all types of depressive illness and may be aggravated by treatment with antidepressants.**

Drugs associated with constipation

- **Analgesics (NSAIDS)**
- **Antacids (containing calcium carbonate or aluminum hydroxide)**
- **Anticholinergic agents, antispasmodics**
- **Antidiarrhoeal agents**
- **Anti-epileptics**
- **Antihistamines (H1-receptor blockers)**
- **Antiparkinsonian drugs**
- **Antipsychotic drugs, e.g. clozapine, risperidone**
- **Barbiturates**
- **Barium sulphate**
- **Benzodiazepines**
- **Calcium-channel blockers (verapamil)**
- **Calcium supplements**
- **Cholestyramine**
- **Clonidine**
- **Cough mixtures**
- **Cytotoxic drugs**
- **Diuretics that cause hypokalemia**
- **Gabapentin**
- **Ganglionic blocking agents**
- **Heavy metal (especially lead)**
- **5-HT3-receptor antagonists, e.g. ondansetron**
- **Iron supplements**
- **Laxatives (chronic use)**
- **Monoamine oxidase inhibitors**
- **Muscle relaxants**
- **Opioid analgesics (e.g. codeine)**
- **SSRIs**
- **Tricyclic antidepressants**

- **The metabolic causes of constipation include hypothyroidism, and the rarer hypercalcemia and porphyria.**
- **Diabetes rarely can be associated with constipation when an autonomic neuropathy can lead to alternating bouts of constipation and diarrhea.**

Psychogenic considerations

- **Constipation may be a manifestation of an underlying functional problem and psychiatric**
- **disorder, such as depression, anorexia nervosa, schizophrenia or drug misuse.**
- **Narcotic misuse must always be considered, and laxatives may cause rebound constipation.**

The clinical approach

History

- It is important to ask patients to define exactly what they mean by constipation.
- As always, a careful history is appropriate, including stool consistency, frequency, ease of evacuation, pain on defecation, and the presence of blood or mucus.
- A dietary history is very relevant.

Key questions

- How often do you go to the toilet?
- What are your bowel motions like?
- Are they bulky and hard, like rabbit pellets, or soft?
- Is there pain on opening your bowels?

- **Have you noticed any blood?**
- **Have you noticed any lumps?**
- **Do you have any soiling on your underwear?**
- **What medications are you taking?**

Diary

- **Ask the patient to keep a 10-day diary recording the frequency and nature of stools and whether any difficulty was experienced when passing stool.**

Examination

- **The important aspects are abdominal palpation and rectal examination.**
- **Palpation may reveal the craggy mass of a neoplasm, faecal retention (especially in the thin patient) or a tender spastic colon.**
- **The perianal region should be examined for localised disease.**
- **The patient should be asked to bear down to demonstrate perianal descent, haemorrhoids or mucosal prolapse.**
- **Perianal sensation and the anal reflex should be tested.**
- **Digital rectal examination is mandatory, and may reveal a rectal tumour and faecal impaction, as well as testing for rectal size and tone.**
- **If there is a history from infancy, a normal or narrow rectum suggests congenital megacolon (Hirschsprung disorder) but, if dilated, acquired megacolon.**

Investigations

These can be summarised as follows:

Haematological:

- **Hb and PCV**
- **ESR**
- **Stools for occult blood**
- **Biochemistry (where suspected):**
- **thyroid function tests**
- **serum calcium**
- **serum potassium**
- **carcinoembryonic antigen (a targeted tumour marker rather than a screen)**

Radiological:

- **CT colonography (virtual colonography)**
- **double contrast barium enema (especially for primary colonic disease, e.g., megacolon)**
- **bowel transit studies, using radio-opaque shapes taken orally and checking progress by**
- **Abdominal X-ray or stool collection**

Physiological tests:

- **anal manometry—test anal tone**
- **rectal sensation and compliance, using an inflatable rectal balloon**
- **Dynamic proctographic, to determine disorders of defecation**
- **Rectal biopsy to determine aganglionia**

Idiopathic constipation

It is best to classify idiopathic constipation into three subgroups:

- **1 simple constipation**
- **2 slow transit constipation**
- **3 normal transit constipation (irritable bowel syndrome)**
- **Of these, the commonest is simple constipation, which is essentially related to a faulty diet and bad habit. Avery Jones,5 who defined the disorder, originally described it as being due to one or more of the following causes:**
- **faulty diet—inadequate dietary fibre**
- **neglect of the call to stool**
- **unfavourable living and working conditions**
- **lack of exercise**
- **travel**
- ***Dyschezia,* or lazy bowel, is the term used to describe a rectum that has become unresponsive to faecal content, and this usually follows repeated ignoring of calls to defecate.**
- **Slow transit constipation occurs primarily in women with an apparently normal colon, despite a high-fibre intake and lack of the other causes described by Avery Jones.**
- **Many are young, with a history dating from early childhood or, more commonly, adolescence.**
- **Constipation may follow childbirth, uncomplicated abdominal surgery or a period of severe dieting. However, in the majority no precipitating cause is evident.**

Management

- **cause has been excluded.**
- **Encourage modification of lifestyle. Provide psychological counselling and biofeedback for dyssynergia problems.**
- **Advice to patients**
- **Adequate exercise, especially walking, is important.**
- **Develop good habits: answer the call to defecate as soon as possible. Develop the ‘after breakfast habit’. Allow time for a good relaxed breakfast and then sit on the toilet.**

Don’t miss

- **meals—food stimulates motility.**
- **Avoid codeine compounds (tablets or mixture).**
- **Take plenty of fluids, especially water and fruit juices (e.g. prune juice).**
- **Eat an optimal bulk diet. Eat foods that provide bulk and roughage, such as vegetables and salads, cereals (especially wheat fibre), fresh and dried fruits, and wholemeal bread.**
- **Enough fibre should be taken to convert stools that sink into stools that float.**

Treatment (pharmaceutical preparations)

- **Some patients may not tolerate unprocessed bran but tolerate pharmaceutical preparations better**
- **An appropriate choice would be one of the hydrophilic bulk-forming agents, such as ispaghula or psyllium.**
- **Avoid stimulant laxatives except for short, sharp treatments.**

Therapeutic agents (laxatives) to treat constipation (with examples)

Hydrophilic bulk-forming agents

- Psyllium mucilloid (Agiofibe, Metamucil)
- Sterculia (Granocol, Normacol)
- Ispaghula (Agiolax, Fybogel)
- Methylcellulose
- Wheat bran/dextrin (Benefiber)
- Crude fibre (Fibyrax Extra)

Stimulant (irritant) laxatives

- Sodium picosulfate
- Anthraquinones: senna (Senokot/Sennetabs), senna with dried fruits (Nu-Lax),
- sennosides A and B; cascara
- Frangula bark (in Normacol Plus)
- Castor oil
- Triphenylmethanes: bisacodyl (e.g. Dulcolax); picosulfate

Osmotic laxatives

- Macrogol 3350 with electrolytes (e.g. Movicol)
- Magnesium sulphate (Epsom salts/Colocap Balance)
- Magnesium hydroxide (milk of magnesia)
- Lactulose (several agents)
- Mannitol
- Sodium phosphate mixture
- Sorbitol (Sorbilax)
- Saline laxatives

Stool-softening/lubricating agents

- Liquid paraffin (Agarol)
- Docusate—poor evidence of efficacy
- Poloxamer
- Glycerin suppositories
- Sorbital/sodium compounds (Microlax)

Laxatives in suppository form

- Glycerin/glycerol Glycerin/glycerol suppository
- Sorbitol sodium compounds (e.g. Fleet Enema)
- Sodium phosphate enema (e.g. Fleet)
- Stimulant microenemas or suppository (e.g. Bisa-lax)
- Stool-softener microenema (e.g. Enamax)

Prokinetic agent

- Prucalopride

First-line therapy

- **Use a general bulking agent, e.g. psyllium or ispaghula granules 1–2 teaspoons (o) once or twice daily, or commercial products as per suggested dose.**

Second-line therapy

- **Use an osmotic laxative or a fibre-based stimulant preparation, e.g. macrogol 3350 + 1–2 sachets, each dissolved in 125 mL water once daily**

or

- **lactulose syrup 15–30 mL (o) daily until response, then 10–20 mL daily**

or

- **dried fruits with senna leaf (Nu-Lax) 10 g nocte**

or

- **docusate + senna (50–80 mg), 1–2 tabs nocte**

Third-line therapy

- **(Recheck cause.)**
- **Magnesium sulphate 1–2 teaspoons (15 g) in water once or twice daily (if normal kidney function)**

or

- **as capsules (Colocap Balance) 15 caps over 15 minutes**

or

- **combined bulking/stimulating agent (e.g. frangula/sterculia [Normacol plus])**

or

- **glycerin suppository (retain for 15–20 minutes)**

or

- **sodium citrate or phosphate enema (e.g. Fleet Enema)**

or

- **Microlax enema**

Constipation in children

- Constipation is quite common in children and is idiopathic in 95%.
- The most common factor is diet.
- Constipation often begins after weaning or with the introduction of cow's milk.
- It is rare with breastfeeding.
- Low fiber intake and a family history of constipation may be associated factors.
- Most children develop normal bowel control by 4 years of age (excluding any physical abnormality).
- It is normal to have a bowel movement every 2–3 days, providing it is of not unusual consistency and is not painful.
- Constipation usually appears between 2 and 4 years of age, and up to a third of primary school-aged children will report constipation over 12 months.

Constipation in children is defined as having two or more of the following over the previous 2 months:

- <3 bowel motions per week
- >1 episode of faecal incontinence per week (previously referred to as encopresis)
- large stools in the rectum or palpable on abdominal examination
- Retentive posturing (e.g. 'stiff as a board' standing/lying, tiptoes, crossed legs, braces against furniture) and withholding behaviour
- painful defecation
- Faecal incontinence, which is a consequence of chronic constipation, is the passage of stool in an inappropriate place in children who have been toilet-trained.

- It can present as soiling (encopresis) due to fecal retention with an overflow of liquid feces (spurious diarrhea).
- Constipation is nearly always functional (>95%) though the FP should check for any red flags for a pathological cause.

Red flag pointers for organic causes in children

1. Blood in stools
2. Perianal disease
3. Fever
4. Weight loss/delayed growth
5. Delayed meconium/thin strip-like stools (neonate)
6. Vomiting
7. Urinary symptoms (although bedwetting is fairly common)
8. Abnormal neurological findings in legs
9. Medications used for children with behavioral/developmental issues

Principles of treatment of functional constipation

- **Encourage relaxed child-parent interaction with toilet training, such as appropriate encouragement, 'after breakfast habit' training, and regular toileting (where possible), three times/day for 3–5 minutes.**
- **Introduce psychotherapy or a behaviour modification program.**
- **Establish an empty bowel.**

Advice for parents of children over 18 months:

- **Drink ample non-milk fluids each day—several glasses of water, and unsweetened fruit juice (be cautious of cow's milk).**
- **Use prune juice, which contains sorbitol.**
- **Get regular exercise—walking, running, outside games or sports.**
- **Provide high-fiber foods—high-fiber cereals, wholegrain bread, brown rice, wholemeal pasta, fresh fruit with skins left on where possible, dried fruits such as sultanas, apricots or prunes, and fresh vegetables.**

- **Laxatives—if constipation has been brief, treat for 3 months, but for chronic constipation, treat for 6 months minimum.**
- **Can use macrogol 3350 (Movicol), paraffin oil or lactulose.**
- **For acute fecal impaction, high-dose laxatives can be used until liquid stools are achieved, and then revert back to maintenance treatment. Enemas are suitable only for children with acute severe rectal pain or distress and are rarely required.**
- **Use pharmaceutical preparation as a last resort to achieve regularity.**
- **Paraffin oil: RCT evidence indicates suitable and better than a stimulant laxative**

- *or*
- osmotic laxative (e.g. lactulose): 1–3 mg/kg
- 1–5 years: 10 mL per day
- >5 years: 15 mL per day
- *or*
- macrogol 3350 with electrolytes:
- 2–12 years: 1 sachet Movicol-Half in 60 mL water once daily
- >12 years: 1 sachet Movicol (or 2 Movicol-Half) daily
- Severe constipation/faecal impaction:
- consider admission to hospital
- abdominal X-ray
- macrogol 3350 with electrolytes (double above doses and water)
- Microlax enema
- If unsuccessful, add ColonLYTELY via nasogastric tube *or* sodium phosphate enema (Fleet
- Enema) (not <2 years).

Constipation in the elderly

- Constipation is a common problem in the elderly, with a tendency for idiopathic constipation to increase with age.
- In addition, the chances of organic disease increase with age, especially colorectal cancer, so this problem requires attention in older patients.
- Fecal impaction is a special problem in the aged confined largely to bed.
- Constipation is often associated with Parkinson’s disease and various medications.
- In the elderly, an osmotic laxative such as sorbitol or lactulose may be required for longstanding refractory constipation, but avoid stimulants and other non-osmotic laxatives.

When to refer

- **Patients with constipation or change in bowel habit of recent onset without obvious cause need further investigation.**
- **Those with chronic symptoms who do not respond to simple measures should be referred.**

Practice tips

- **The objectives of treatment should be to exclude organic disease**
- **Discourage long-term use of laxatives, suppositories, and microenemas.**
- **The laxatives to discourage should include anthraquinone derivatives, bisacodyl, phenolphthalein, magnesium salts, castor oil, and mineral oils.**
- **First-line treatment of functional constipation (unresponsive to simple measures) is a bulking agent.**
- **An osmotic laxative is a good second-line therapy.**
- **Bleeding with constipation indicates associated organic illness—exclude bowel cancer. Bright red blood usually means hemorrhoids.**
- **Beware of hypokalaemia causing constipation in the older person on diuretic treatment.**
- **If cancer can be felt on rectal examination, further investigation and management will be required.**

References

American Family Physician (AFP) - "Diagnosis and Management of Constipation in Adults" .1

This article provides a comprehensive overview of constipation, including its evaluation, diagnosis, and management in primary care settings. It is a practical resource for family physicians and aligns well with clinical practice guidelines. .1

Link: https://www.aafp.org/pubs/afp/issues/2021/0700/p91.html .2

Rome Foundation - Rome IV Criteria for Functional Gastrointestinal Disorders .2

The Rome IV criteria are the gold standard for diagnosing functional constipation and other gastrointestinal disorders. This resource is essential for understanding the diagnostic framework used in clinical practice. .1

Link: https://theromefoundation.org/rome-iv/ .2

Thank you