

Gastroenterology in the elderly

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Abstract

Gastrointestinal disorders represent the third most common cause of general practice consultations by patients older than 65 years in Western society. There are few changes within the gastrointestinal tract that occur inevitably as part of ageing. However, with increasing age, the incidence of both benign and malignant gastrointestinal disease rises. Although gastrointestinal disorders do not show particular characteristics in the elderly, when compared with younger adults, they may present with more severe symptoms due to co-morbidities and polypharmacy. Adverse reactions to non-steroidal anti-inflammatory drugs are more common in people aged over 65, and are a leading cause of hospitalization in this age group. Dysphagia and constipation are also more common, as is diverticular disease. Inflammatory bowel disease appears to show a second peak of onset between ages 60 and 80, and mesenteric intestinal ischaemia is largely confined to the elderly population. This article will review the reasons for these differences, where these are known, and consider aspects of diagnosis and management that are particularly relevant in elderly patients.

Keywords Chronic motility disorders; functional bowel disorders in the elderly; gastrointestinal disorders in the elderly; irritable bowel syndrome; mesenteric ischaemia; obscure GI bleeding; polypharmacy; upper GI bleeding

Upper gastrointestinal diseases

The prevalence of upper gastrointestinal (GI) disease increases in people aged 65 and over. Conditions such as gastro-oesophageal reflux disease, peptic ulcer and gastric cancer become more common with advancing age. Older individuals also tend to have a high burden of co-morbid factors, including *Helicobacter pylori* infection, and use of medication such as non-steroidal anti-inflammatory drugs (NSAIDs), bisphosphonates and corticosteroids.¹

Unfortunately, in elderly patients with these disorders the symptoms may be mild or atypical, resulting in delayed diagnosis. The practitioner needs to maintain a high degree of clinical suspicion when presented with GI symptoms in this group of patients.

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Upper GI bleeding

Acute upper GI bleeding is a common and potentially life-threatening medical emergency. It is associated with higher rates of hospitalization, morbidity and mortality in the elderly, largely because of multiple co-morbidities. Age is also an independent risk factor for death from upper gastrointestinal bleeding, as are *H. pylori* infection, the use of NSAIDs and anticoagulation.

These patients require prompt risk assessment and resuscitation, followed by early endoscopy and endotherapy for haemostasis. Continued severe bleeding is an indication for radiological intervention or surgery in suitable patients.

Drug-induced GI disorders

Medical drug use increases with age and the elderly are at increased risk of adverse drug reactions. Multiple morbidities and polypharmacy are common in individuals during old age. Gastrointestinal symptoms resulting from either prescription medication or over-the-counter drugs are frequently encountered in geriatric practice, but often mistaken for a symptom of intrinsic organic disease, leading to over-investigation and over-treatment.²

NSAIDs (non-steroidal anti-inflammatory drugs)

Oral NSAIDs remain the most frequently prescribed medication in the UK for musculoskeletal disorders, such as osteoarthritis and chronic backache. Gastrointestinal manifestations, notably ulcers and bleeding, are the most common and life-threatening adverse effects associated with NSAIDs.

In the elderly NSAID-induced adverse effects have become a leading cause of hospitalization with increase in mortality from gastrointestinal ulceration more than fourfold. Up to half of NSAID induced gastroduodenal mucosal lesions may be asymptomatic.^{3,4}

Proton pump inhibitors (PPI) and cyclo-oxygenase 2-selective NSAIDs may be used to mitigate against the adverse effects of conventional NSAIDs. Topical NSAIDs, with their reduced systemic absorption, may present a viable option for patients at increased risk of serious NSAID-related adverse events.⁵

Opioids

Pain is a common complaint in the elderly and opioids are useful agents for the management of both acute and chronic pain. Opioids are known to cause a variety of adverse GI effects, particularly constipation and these adverse effects can be particularly problematic for elderly patients.

Antibiotics

Physiological changes in the gut microflora of the elderly appear to manifest as proliferation of potentially pathogenic species at the expense of 'healthy' bacteria (lactobacilli and bifid bacterium). This altered balance has the potential to augment the risk of antibiotic-related adverse GI effects, including that of *Clostridium difficile* infection – although the latter can also appear as a sporadic illness with increased frequency in users of PPI therapy. *C difficile* infection can be severe in the elderly, and carries a high risk of recurrence and mortality.⁶

Chronic GI motility disorder

Normal ageing is associated with various changes in GI motility but the clinical significance of such changes remains unclear. Large numbers of enteric neurones (the component of the autonomic nervous system that regulates GI motility) may be lost with age, but the GI tract remains surprisingly functional.

A major compounding factor in the interpretation of motor phenomena throughout the GI tract in this age group is the frequent co-existence of neurological, endocrinological and other diseases, which may be independently associated with defective motility. Furthermore, certain drugs commonly prescribed in the elderly can affect GI tract motility, including anticholinergics, antidepressants, opioid analgesics and calcium antagonists.

Dysphagia

Elderly individuals frequently suffer from oropharyngeal muscle dysmotility with dysphagia. Reduction in oesophageal peristalsis and low oesophageal sphincter pressure are also more common in the elderly, leading to dysphagia and gastro-oesophageal reflux disease. Although achalasia is generally an uncommon condition, it needs to be considered in the differential diagnosis. The combination of dysphagia and weight loss should prompt consideration not only of cancer but of an underlying neurological cause, such as motor neurone disease with bulbar involvement or Parkinson's disease.

Constipation

Constipation is one of the GI disorders most frequently encountered in clinical practice in Western society. It is more common in females and its prevalence increases with age. Abnormalities in innervation of the colon may play a significant role in changes in colonic motility, leading to delayed colonic transit in the elderly.

Evaluation of constipation begins with a detailed medical history and anorectal examination. Key self-management strategies include exercise, dietary modification and use of different laxatives to regularize the bowel habit, as appropriate. Simple bulking laxatives or stool softeners are usually effective and may need to be continued long-term.^{7,8}

Iron deficiency anaemia

This topic will be discussed elsewhere in detail, so our comments are limited to some specific issues relevant to the older patient. Iron deficiency is the most common cause of anaemia worldwide and could be the first indicator of a more serious underlying condition.

Iron deficiency anaemia in the Western world, rather than being due to dietary factors, is more often a clue to occult upper and lower gastrointestinal lesions in the elderly.

Functional iron deficiency, which may occur in this age group secondary to acute or chronic inflammatory conditions, is diagnosed when the transferrin saturation is less than 20% in the presence of a normal or raised serum ferritin.

GI causes of iron deficiency, including atrophic gastritis, *H. pylori*-related gastritis and coeliac disease, should be considered in patients with otherwise unexplained iron deficiency. Several studies have shown that approximately 15–20% of patients with newly diagnosed coeliac disease are over the age of 65.⁹

The major cause of iron deficiency in elderly patients is blood loss, either overt or covert ('obscure'). Overt blood loss is by definition obvious manifesting as haematemesis, melaena, epistaxis or haematuria. It should prompt appropriate investigation, often with endoscopy or colonoscopy in the first instance.

Obscure GI bleeding

Obscure bleeding is defined as bleeding from the gastrointestinal tract that persists or recurs without an obvious cause after an upper GI endoscopy and colonoscopy (Table 1). This is notoriously difficult to diagnose. The evaluation of obscure GI bleeding includes a judicious search for the source of the bleed. This should be guided by the clinical history, and often the first-line investigation is a CT scan of the abdomen and pelvis. Capsule endoscopy should be reserved for patients where there is recurrent or transfusion-dependent anaemia. Additional investigations may, according to clinical indication, include push or balloon enteroscopy, angiography and intra-operative enteroscopy. In 15–20% of patients the underlying cause may remain undiagnosed but such patients can be reassured provided serious pathology has been excluded.¹⁰

Diverticular disease

Diverticular disease is very common in the elderly. It is present in 65% of 65 year-olds, and is asymptomatic in 80–85% of those affected. The remaining 15–20% may develop symptomatic diverticular disease, usually manifest as non-specific abdominal pain and intermittent rectal bleeding. A small minority, up to 5%, may develop complications that include diverticulitis, bleeding, obstruction, abscess formation and, rarely, fistulas. The sigmoid colon is involved in 90% of patients.¹¹

Investigations – A plain radiograph is warranted in patients with suspected perforation. A CT scan is useful to evaluate diverticulitis with abscess or to exclude a collection. If indicated, a colonoscopy is perfectly safe in diverticular disease.

Treatment – In symptomatic uncomplicated diverticular disease the goal of treatment should be alleviation of symptoms and

Aetiology of obscure gastrointestinal bleeding¹²

Upper GI lesion

Cameron's erosions
Peptic ulcer
Fundal varices
Angiodysplasia
Dieulafoy's lesion
Gastric antral vascular ectasia

Small intestinal bleeding

Tumours
Angiodysplasia
NSAID-induced enteropathy
Coeliac disease
Dieulafoy's lesion
Crohn's disease
Meckel's diverticulum
(consider in patients aged under 40)

Lower GI lesion

Angiodysplasia
Neoplasm

Uncommon causes

Haemobilia
Haemosuccus pancreaticus
(Source of bleeding within pancreatic duct)
Aorto-enteric fistula

Table 1

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