Ulcerative colitis

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Aetiology

-Unknown etiology
-Familial predisposition(prevalence among first-degree relatives of patients is 15 times that of the general population but there is no clear Mendelian pattern of inheritance).
-No infective organism could be incriminated
-Smoking has a protective effect.
-Stress might lead to relapses
-10 to 15 new cases per 100000 populations in the UK.
-It was rare in eastern population however the incidence is increasing.
-Sex ratio is equal
-Uncommon before the age of 10, mostly between 20 and 40 yrs of age.

Pathology:

- In 95 % of cases the disease starts in the rectum and spread proximally
- When the ileocaecal valve is incompetent, retrograde (backwash) ileitis involving the last 30 cm of the ileum is likely to occur.
- It is a non specific inflammatory disease, primarily affecting the mucosa and sub mucosa and very rarely the deeper layers of wall.
- There are multiple minute ulcers.
- In chronic disease, inflammatory polyps (pseudo polyps) occur in up to 20% of cases. They result from previous ulcerations leaving islands of spared mucosa which will remain prominent when the adjacent mucosa heals.
- In sever fulminant colitis, transverse colon may become acutely dilated with thin wall and may perforate (Toxic mega colon)

Microscopic examination

– Increase inflammatory cells in the lamina propria

-- Infiltration of walls of crypts by inflammatory cells.

-- Depletion of goblet cell mucin.

-- With time these changes become sever leading to dysplasia or carcinoma in situ.

Symptoms:

1. Watery or bloody diarrhea with rectal discharge of mucous (blood stained or purulent).
2. Chronic disease with relapses and remissions.
3. Poor prognosis is indicated by sever initial attacks, sever disease involving the whole colon and increasing age.

Proctitis: - Disease confined to the rectum (25%) , stool is formed or semi-formed , sever tenesmus.

Left sided and total colitis: - (15% have left colitis and 25% have total colitis), recurrent sever attacks of bloody diarrhea, dehydration and fluid / electrolytes losses, anemia and hypoproteinemia are common.

Disease severity

1. Mild – rectal bleeding or diarrhea with 4 or fewer motions per day and absence of systemic signs of the disease.
2. Moderate - More than 4 motions per day but no systemic signs.
3. Sever – More than 4 motions per day with one or more signs of systemic illness (Fever, Tachycardia, Hypoalbuminemia and weight loss)

Complications of Sever disease:

1. Fulminating colitis and Toxic mega colon – sever abdominal pain, huge dilatation of the colon, progressive increase in the diameter inspite of medical therapy.
2. Perforation
3. Sever hemorrhage

Summary box 69.2

Complications of ulcerative colitis

- Acute
  - Toxic dilatation
  - Perforation
  - Haemorrhage
- Chronic
  - Cancer
  - Extra-alimentary manifestations: skin lesions, eye problems and liver disease

Investigations:

Plain x-ray of the abdomen - we will find Dilated colon, feces are present only in parts of the colon that are normal, small bowl loops located in the right lower abdomen.

Barium enema – * Loss of hostration
* Granular mucosa
* Pseudo polyps
* Narrow contracted colon (in chronic disease / led pipe appearance)

Sigmoidoscopy – signs of Proctitis (Hyperemic mucosa bleeds on touch and pus like exudates). Tiny ulcers are late signs.

Colonoscopy & Biopsy –
used to establish the extent of the disease
differentiate between ulcerative colitis and Crohn's colitis,
monitor response to treatment,
and assess chronic cases for malignant changes.

Bacteriology

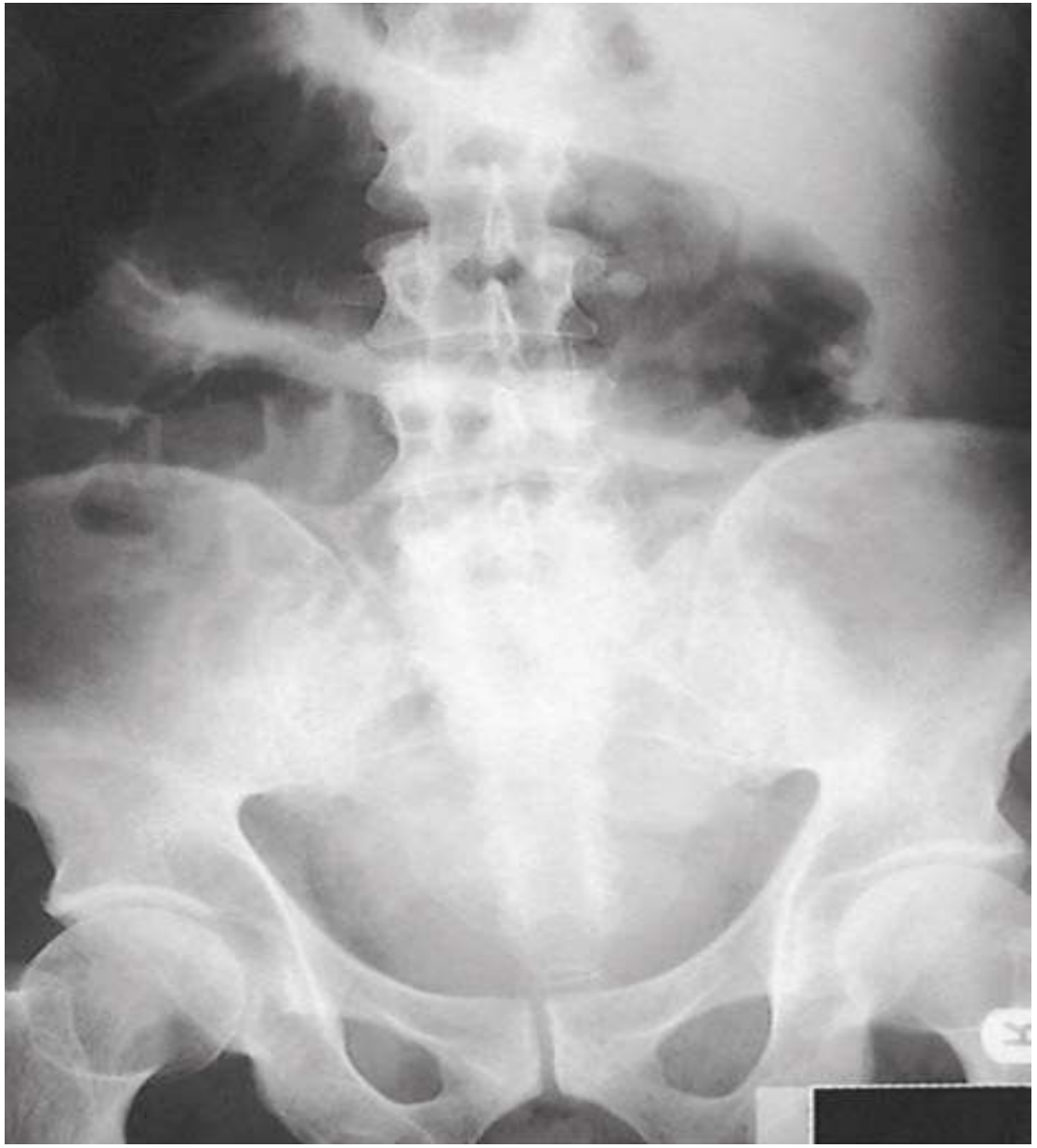
Campylobacter is the commonest cause of infective colitis in the UK. Pathologically, it is difficult to distinguish from UC.

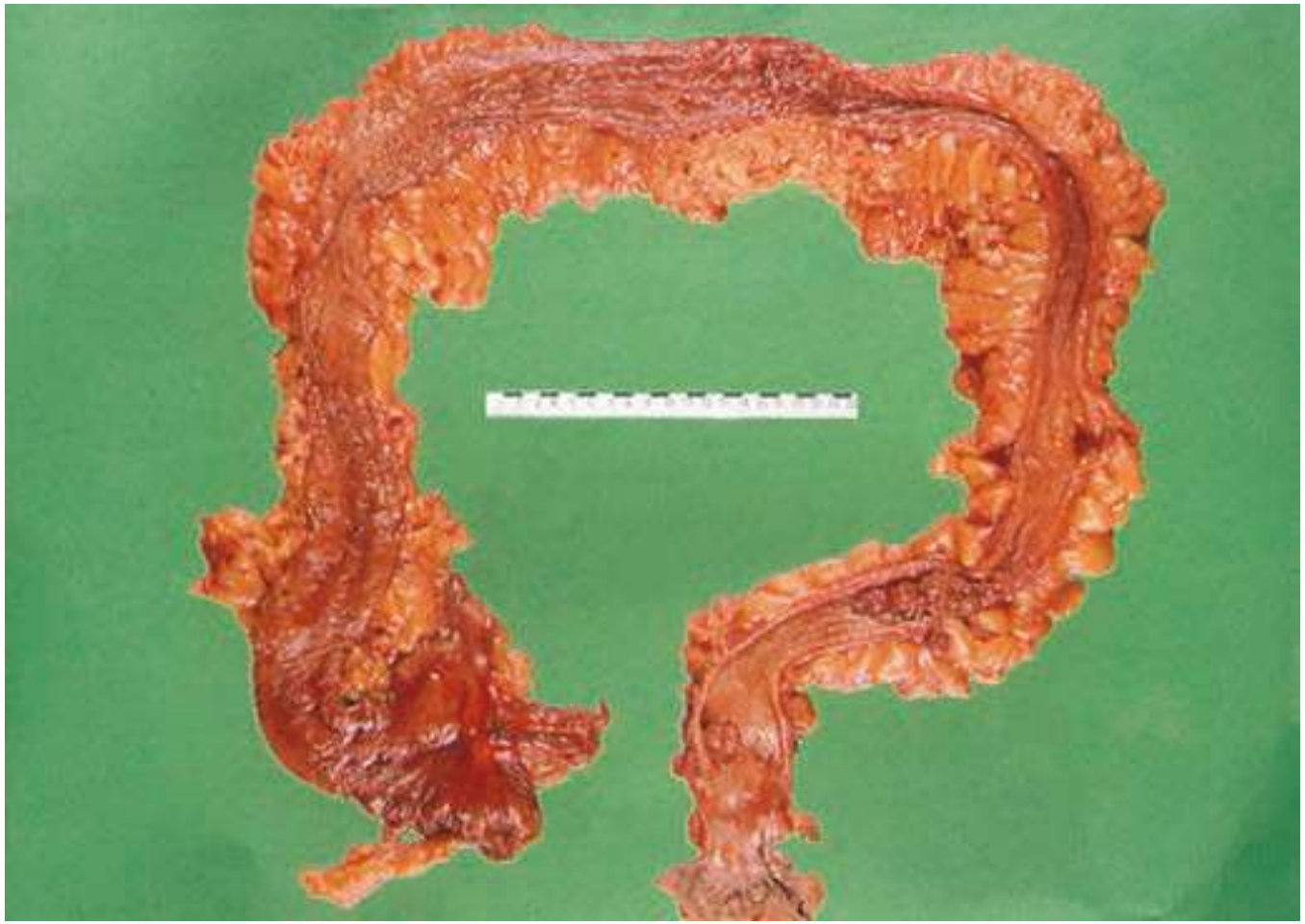
A stool specimen needs to be sent for microbiology analysis when UC is suspected. Other infective causes include *Shigella and amoebiasis.*

Pseudomembranous colitis occurs in hospital patients on antibiotic treatment and non-steroidal anti-inflammatory drugs (NSAIDs). The causative organism is *Clostridium difficile.*

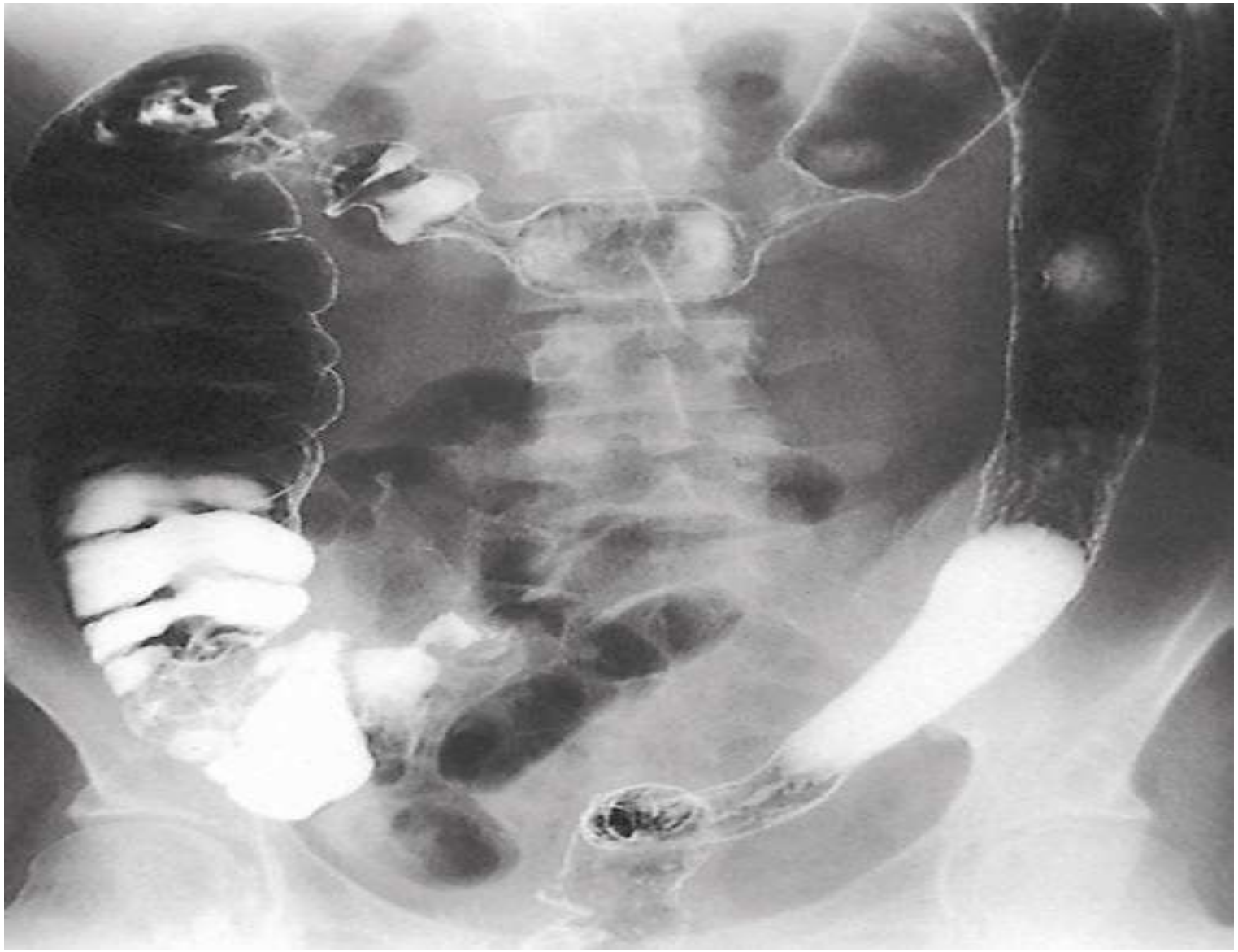
Immunocompromised patients are at risk of infective proctocolitis from cytomegalovirus and cryptosporidia.

Supine abdominal radiograph in toxic megacolon. The transverse colon is dilated (7 cm), and large mucosal islands are present in the ascending colon and hepatic flexure. No haustration is present in the transverse colon, which distinguishes this from ileus of obstruction





Resection specimen from a patient with long-standing ulcerative colitis showing a narrow tubular colon with areas of cancerous change in the rectum and sigmoid



Double-contrast barium enema showing left-sided ulcerative colitis with a **tubular left colon** compared with a normal right colon

Extraintestinal manifestations

- Arthritis occurs in around 15 per cent of patients and is of the large joint polyarthropathy type, affecting knees, ankles, elbows and wrists.
- Sacroiliitis and ankylosing spondylitis are 20 times more common in patients with UC than the general population and are associated with HLA-B27.
- Sclerosing cholangitis is associated with UC and can progress to cirrhosis and hepatocellular failure. Patients with UC and sclerosing cholangitis are also at a greater risk of development of large bowel cancer.
- Cholangiocarcinoma is an extremely rare association and its frequency is not influenced by colectomy.
- The skin lesions erythema nodosum and pyoderma gangrenosum are associated with UC and both normally get better with good colitis control.
- The eyes can also be affected with uveitis and episcleritis.

The cancer risk in colitis

Although this is an important complication the overall risk is only about 3.5 per cent(At 10 years, is 2%. This increases to 8% at 20 years and 18% at 30 years).

- ❑It increases with duration of disease.
- ❑Carcinoma is more likely to occur where the whole colon is involved and where the disease started in early life.
- ❑ Carcinomatous change, often atypical and high grade, may occur at many sites at once.
- ❑The colon is involved rather than the rectum and the maximal incidence is during the fourth decade.

Treatment:

Mild attacks –

1. Rectally administered steroids for mild attacks and oral prednisolon 20-40 mg per day for more extensive disease for 3 to 4 weeks.

2. Sulphasalazine 1 gm, 3 times daily should be given also.

Moderate attacks –

1. Oral prednisolon 40 mg per day.

2. Twice daily steroid enemas and 5 ASA (5 amino Salicylic acid).

Sever attacks –

1. Admission to the hospital.
2. Frequent measurement of abdominal girth.
3. Daily abdominal x-ray for follow of dilatation of the transverse colon of more than 5.5 cm.

The presence of mucosal islands, increasing colonic diameter or a sudden increase in pulse or temperature may indicate colonic perforation.

4. Stool chart to help assessment of response to therapy.
5. Maintanance of fluid and electrolytes, correction of anemia and nutritional deficiency, nothing by mouth, IV hydrocortisone 100-200 mg 4 times daily.
6. Rectal infusion of hydrocortisone.
7. Sometimes Azathioprene or cyclosporine A.
8. Failure of treatment within 5-7 days – consider surgery.

Indications for surgery

1. Sever fulminating disease failing to response to medical therapy.
2. Chronic disease with anemia, frequent stools, urgency and tenesmus.
3. Steroid dependant disease.
4. Risk of neoplastic change.
5. Extra-intestinal manifestations.
6. Sever hemorrhage or obstruction.

Operative treatment for UC

Emergency

In the emergency situation, the ‘first aid procedure’ is a subtotal colectomy and end ileostomy.

Elective surgery

In the elective setting, four operations are available:

1 Subtotal colectomy and ileostomy (as in an emergency)

2 Proctocolectomy and permanent end ileostomy

3 Restorative proctocolectomy with ileoanal pouch

4 Subtotal colectomy and ileorectal anastomosis.

Table 69.1 Distinguishing ulcerative colitis and Crohn's disease.

	Ulcerative colitis	Crohn's disease
Macroscopic		
Distribution	Colon/rectum	Anywhere in the gastrointestinal tract
Rectum	Always involved	Often spared
Perianal disease	Rare	Common
Fistula formation	Rare	Common
Stricture	Rare	Common
Microscopic		
Layers involved	Mucosa/submucosa	Full thickness
Granulomas	No	Common
Fissuring	No	Common
Crypt abscesses	Common	Rare

Thank you