**Ulcerative Colitis**

### Definition of ulcerative colitis
- An autoimmune chronic inflammatory disease of the colon and rectum, with a relapsing-remitting pattern

### Epidemiology of ulcerative colitis
- Incidence about 10 per 100,000 per year
- Prevalence is about 1 per 1000
- Slightly more prevalent in men
- More prevalent in northern hemisphere western countries

### Causes and risk factors for ulcerative colitis
- Thought to be a combination of environmental and genetic triggers
- Monozygotic twin concordance rate of 10%
- Smoking is protective (unlike Crohn’s)

### Presentations of ulcerative colitis
- **Gastrointestinal**
  - Bloody diarrhoea (maybe with mucus)
  - Lower abdominal discomfort
  - Abdominal tenderness
  - Palpable masses
  - Abdominal distension (can be indicative of toxic megacolon)
  - Urgency and frequency of stools (especially in acute attacks)
  - Tenesmus
- **Systemic**
  - Malaise, lethargy, anorexia
- **Extra-intestinal manifestations:**
  - Erythema nodosum
  - Uveitis/episcleritis
  - Arthropathy
  - Pyoderma granulomatosum
  - Primary sclerosing cholangitis (75% of PSC is seen in UC patients)
- **NB.** In an acute attack the patient may be pale, febrile, dehydrated, tachycardic and hypotensive

### Differential diagnosis of ulcerative colitis
- Infectious diarrhoea
  - Shigella, Salmonella, Campylobacter, E.coli, amoebae, Clostridium difficile
- Crohn’s disease
- Ischaemic colitis
- Radiation enteritis
- Chemical colitis
- CMV colitis
- GI malignancy
- Coeliac disease
Pathology of ulcerative colitis

- **Macroscopic pathology**
  - Inflammation extends proximally from the rectum (unlike Crohn’s, where the inflammation can be anywhere)
  - Hence inflammation can be classified as proctitis (limited to rectum), left-sided colitis (extending to sigmoid and descending colon), or pan-colitis (when entire colon involved)
  - Mucosa is reddened, inflamed, and bleeds easily.
  - Extensive ulceration, with islands of normal mucosa

- **Microscopic pathology**
  - Superficial inflammation of mucosa (unlike Crohn’s, which is full-thickness)
  - Chronic inflammatory cell infiltrate in lamina propria (part of mucosa just under epithelium)
  - Crypt abcesses
  - Goblet (mucus-making) cell depletion

Acute management of ulcerative colitis

- This is a medical emergency and patients with severe colitis should be admitted, ideally onto a gastrointestinal ward.


- Calculate severity according to **Truelove and Witts’ criteria**:
  - More than 6 bloody stools per day (often nocturnal) and at least one of:
    - Temp >37.8 on 2 out of 4 days
    - Hb <10.5
    - ESR >30
    - Pulse >90
    - Colon dilated >5.5cm

- **Immediate investigations**
  - **Bloods**
    - FBC, U&E, LFT, CRP, ESR, coagulation, G&S
    - B12, folate, iron studies
    - Amylase and beta-HCG
    - Consider TPMT levels (see below)
  - **Cultures**
    - Blood culture
    - Stool culture
  - **Imaging**
    - AXR: Check for megacolon: >5.5 cm dilated.
    - USS and CT
- **Supportive management**
  - IV fluids (replace deficit followed by maintenance fluids)
  - Thromboprophylaxis (e.g. prophylactic LMWH)
  - Stool chart
  - Weigh daily
  - Assess nutritional status: if deplete then enteral feeding is preferable
  - No role for being NBM and can increase lactose intolerance

- Flexible sigmoidoscopy
Should be undertaken within 72 hours (ideally 24h) to obtain diagnostic biopsy and to exclude CMV colitis.

**Treatment**
- Steroids
  - 60mg po Prednisolone or 400mg iv hydrocortisone (100mg four times daily) for up to five days
  - There is no benefit in steroid therapy beyond 10 days.
- Avoid antibiotics unless clear evidence of infection
- Surgery
  - If any evidence of toxic megacolon (dilatation >5.5cm or caecum >9cm) then consider urgent colectomy depending on the clinical state of the patient.
  - A stool frequency >8/day or CRP >45 at 3 days predicts the need for colectomy in about 85% of cases.
  - Consider rescue therapy or colectomy if no improvement or deterioration at day three

**Rescue therapy**
- Ciclosporin (2mg/kg/day)
  - Check magnesium, cholesterol and creatinine
  - Watch out for toxicity
  - Following remission, continue oral ciclosporin for 3-6 months
- Infliximab
  - Check LFT, Hep B/C, HIV, varicella, TB (CXR or consider ELIZA)
  - No evidence for Hep C reactivation
  - Ensure vaccinations up to date (but no live vaccines)
  - Used as a bridge to further immunsuppressive drugs and not to maintain remission as evidence is limited.
  - If no response to rescue therapy is seen within 4-7 days then colectomy is recommended.

**Further management of ulcerative colitis and maintenance of remission**

**Recommendations**
- Long term maintenance therapy is recommended for most patients, especially those with extensive or left-sided disease or those with proctitis who relapse more than once per year

**Medical maintenance for UC**
- Patients should receive maintenance therapy with aminosalicylates, azathioprine or mercaptopurine
- NICE does not recommend long-term use of anti-TNF therapy
- Oral mesalazine 1.2-2.4g daily should be first-line
- Topical mesalazine +/- oral can be used in patients with distal disease
- Azathioprine 2-2.5mg/kg/day or mercaptopurine are the first-line agents for steroid-dependent disease
  - Long-term treatment with steroids is not acceptable
- All patients should have thiopurine methyltransferase levels (TPMT) measured before starting thiopurines (metcaptopurine and azathioprine) to avoid fatal administration to those with no or low TPMT levels.
- Methotrexate can be considered in patients who do not respond to above treatments

**Surgery**
- Indications
  - Severe attacks which don’t respond to medical treatment or toxic megacolon (>5.5cm on AXR, thin-walled, thumb-printing, gas in bowel wall)
  - If toxic dilatation and no response to steroids over 24 hours, go straight to colectomy as perforation rates >30%
- Poorly-controlled disease
- Recurrent acute-on-chronic disease
- Presence of dysplasia or carcinoma
  - Subtotal colectomy with ileostomy, with the option of returning later for a re-anastomosis and ileo-anal pouch formation.
  - Colectomy may also be considered in chronic disease due to poor response to medication, excessive steroid requirements or risk of cancer.

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<th>Complications of ulcerative colitis</th>
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<tr>
<td>• Acute</td>
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<td>- Toxic megacolon</td>
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<td>- Mortality approximately 20%</td>
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<td>• Primary sclerosing cholangitis</td>
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<td>• Colorectal carcinoma</td>
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<td>- Risk increased 10-20 times once patients have had UC for 20 years</td>
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<td>- 5-asa treatment seems to reduce risk</td>
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<td>- Start screening colonoscopy at 10 years, then repeat at 1,3, or 5-year intervals depending on risk</td>
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<td>- Mucosal dysplasia on rectal biopsy is associated with cancer elsewhere in the bowel.</td>
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<td>• Pouchitis after colectomy (with relapsing-remitting course)</td>
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<td>• Osteoporosis from steroid therapy</td>
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<td>- Bisphosphonates to over 65s on steroids</td>
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<td>- DEXA, then bisphosphonates if T&lt;1.5 if not over 65</td>
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<th>Prognosis of ulcerative colitis</th>
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<td>• With treatment, mortality only slightly more than normal population and that is mostly in the first two years after diagnosis</td>
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<td>• 10% need colectomy in first year, 14% will have colectomy at 20 years</td>
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<td>• 50% will relapse in any one year</td>
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<td>• 90% get back to normal employment after 1 year</td>
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