CROHN’S DISEASE

Introduction

Crohn’s disease is one of two mucosal diseases of the GIT, which are collectively referred to as inflammatory bowel disease.

It is a chronic relapsing disease.

Crohn’s disease is also referred to as regional enteritis, terminal ileitis, or granulomatous ileocolitis.

Pathophysiology

● Crohn’s disease can affect *any part* of the gastrointestinal tract.

● Inflammation is far more commonly transmural compared to ulcerative colitis which is more commonly partial only.

● In contrast to ulcerative colitis, the lesions of Crohn’s disease are *discontinuous*, with skip areas interspersed between one or more involved areas. Late in the disease, the mucosa develops a cobblestone appearance, which results from deep longitudinal ulcerations interlaced with intervening normal mucosa.

● The diagnosis is made by demonstrating the endoscopic and histological features of colitis at sigmoidoscopy and excluding known infectious causes by stool examination.

● The disease process is thought to be influence by genetic factors and is autoimmune in nature.

There are 3 major patterns of involvement in Crohn’s disease including:

● Disease in the ileum and cecum, occurring in 40% of patients.

● Disease confined to the small intestine, occurring in 30% of patients.

● Disease confined to the colon, occurring in 25% of patients.

Rectal sparing is common in Crohn’s, (in contrast to ulcerative colitis, where it is universal)
Perianal involvement in the other hand is common in Crohn’s whilst this is not seen in ulcerative colitis.

**Complications:**

Recognized complications of Crohn’s disease include:

*Acute complications:*

1. Fluid and electrolyte loss.
2. Blood loss with anaemia.
3. Sepsis, including:
   - Local abscess formation.
   - Perforation of the GIT with consequent peritonitis
   - Septicemia
4. Toxic megacolon, (although this more commonly seen with ulcerative colitis), (see separate guidelines).

*Long term complications:*

5. Stricture formation, (occurs much more commonly than in ulcerative colitis)
6. Fistula formation, (occurs much more commonly than in ulcerative colitis).
7. Bile salt malabsorption:
   - Extensive ileal disease, especially in patients who have undergone previous ileal resection, may cause bile salt malabsorption leading to bile salt diarrhoea (due to the stimulatory effect of bile salts on the colonic mucosa), or to steatorrhoea (due to bile salt depletion).
   - These may occur in the absence of active inflammation.
   - It is important to distinguish between bile salt diarrhoea, steatorrhoea and active Crohn’s disease.

*Autoimmune associations:*

Extraintestinal autoimmune complications of inflammatory bowel disease include:

- Iritis/ episcleritis
• Arthritis.
• Skin involvement, including pyoderma gangrenosum ulcerations.
• Pericholangitis and sclerosing cholangitis.

**Clinical Assessment**

The aims of clinical assessment in the ED will be:

• Establish how unwell the patient is.
• Look for possible serious complications.
• Rule out alternative diagnoses.
• Decide on the need for admission.

**Important points of history:**

1. Establish the patient’s normal pattern of disease.
2. Establish the patient’s usual maintenance drug regime.
3. Enquire as to who the patient’s usual specialist is, (liaison will often be necessary when planning treatment)
4. Establish the nature of the symptoms that has caused the patient to present to hospital.

**Important points of examination:**

1. Vital signs.
2. Hydrations status.
3. Look for signs of sepsis.
4. Check for signs and degree of GIT bleeding.
5. Abdominal examination:
   • Look for signs of a surgical complication such as perforation or peritonitis.
   • When the terminal ileum is involved in an exacerbation of disease, the presentation can very much resemble acute appendicitis.
**Investigations**

**Blood tests:**

1. **FBE:**
   - White cell count will be elevated in increased activity or secondary infective complications.
2. **CRP:**
   - This is important to assess disease activity or secondary infective complications.
3. **U&Es / glucose:**
   - In particular check for hypokalemia.
4. **LFTs:**
   - Albumin levels in particular, which can be an indicator of severity.
5. **Others as clinically indicated:**
   - Blood cultures.
   - Coagulation screens.
   - ABGs

**Plain radiography:**

CXR/ AXR, erect and supine looking for:

- Obstruction.
- Perforation.

**CT imaging:**

This is the best investigation when:

- The patient is very unwell.
- Severe secondary complications are suspected
- The diagnosis is unclear.
**Management**

As with ulcerative colitis, the aims of therapy are to induce remission in active disease and to maintain remission and prevent relapse.

The severity of the disease and the site(s) of the affected bowel are used to determine which agents may be used and their route of administration or formulation.

**Oral or parenteral corticosteroids are the most effective first-line agents for the treatment of active Crohn’s disease.**

**The benefits of aminosalicylates in active Crohn’s disease (in contrast to ulcerative colitis) are limited and of doubtful clinical significance.**

**Mild to moderate disease:**

1. Steroids:
   
   Steroid options include:
   
   - Prednisolone.
   
   - Controlled release budesonide, is especially used in ileo-cecal disease and in those who have a history of past adverse reactions to systemic corticosteroids.
   
   - See latest Gastrointestinal Therapeutic Guidelines for further prescribing details.

2. Metronidazole:
   
   - Metronidazole has been shown in clinical trials to have a limited effect when used as a single agent in active Crohn’s disease.
   
   - See latest Gastrointestinal Therapeutic Guidelines for further prescribing details.

**Severe Exacerbation:**

Management of severe exacerbations of ulcerative colitis includes:

1. IV fluid resuscitation:
   
   - The immediate priority will be fluid resuscitation.
   
   - With IV access takes bloods and do an ECG, (look for hypokalemia)

2. Antibiotics:
IV antibiotics should be given urgently in patients who are:

- Toxic/ septicemic
- Have suspected toxic megacolon, (see separate guidelines)
- Have suspected surgical complications, such as peritonitis or gut perforation.

- **See latest antibiotic guidelines for current recommendations.**

3. Correct electrolyte disturbance:
   - Hypokalemia in particular, and hypoglycaemia.

4. Nil orally.

5. Antidiarrhoeal agents.
   - Loperamide, other antidiarrhoeal and anticholinergic agents, (such as buscopan) should be *avoided* in *severe* disease as they may precipitate toxic megacolon.

6. Analgesia:
   - Narcotic analgesics should be used with caution.

7. Surgical referral:
   - **Early surgical review is important in all unwell patients in order to rule out a surgical complication.**

8. Supportive care as indicated.

9. Bile salt diarrhea:
   - Bile salt diarrhoea can be controlled by cholestyramine.
   - **See latest Gastrointestinal Therapeutic Guidelines for further prescribing details.**

10. **IV steroids:**

    **Severe disease requires parenteral therapy initially.**

    The optimal duration of intravenous corticosteroid therapy is not known; it is generally continued for 3 to 7 days.
Options include:

- IV Hydrocortisone.

Or

- IV methylprednisolone.

See latest Gastrointestinal Therapeutic Guidelines for further prescribing details.

11. **Infliximab**:

- Clinical trials have shown response rates to infliximab of 60% to 70% in patients with refractory active Crohn’s disease.

- Response to a single dose is limited to 6 to 8 weeks.

- The benefits of one infusion generally last for 6 to 8 weeks.

- If there is a response, maintenance therapy every 8 weeks is instituted.

- Infliximab is used only in specialist centres because of serious adverse reactions and high cost.

- See latest Gastrointestinal Therapeutic Guidelines for further prescribing details.

12. **Surgery**:

- Surgery may ultimately be required for severe refractory cases.

**Maintenance therapy**:

Crohn’s disease is a relapsing and remitting condition and many patients require ongoing therapy to maintain a remission.

There is good evidence that azathioprine and mercaptopurine are effective as maintenance agents, and should be used for patients with frequent relapses and for those who are corticosteroid-dependent.

Infliximab therapy has also been shown to be effective for the maintenance of remission for both luminal and fistulising Crohn’s disease.

Corticosteroids are useful for acute therapy but should not be used as maintenance treatment to prevent relapse; they are no more effective than placebo and are associated with significant long-term adverse effects.