ULCERATIVE COLITIS

Introduction

Ulcerative colitis (UC) is a mucosal disease that is confined to the colon. Inflammatory changes are continuous and extend from the rectum for a variable distance towards the caecum.

It is one of two mucosal diseases of the GIT, which are collectively referred to as **inflammatory bowel disease.**

It is a chronic relapsing disease of presumed autoimmune aetiology.

Toxic megacolon / toxic colitis is the most serious acute complication.

See also separate documents on:

- **Toxic Megacolon (in GIT folder)**
- **Crohn's Disease (in GIT folder)**

Pathophysiology

Causes:

The exact causes of IBD are unknown, but both genetic and environmental factors are thought to be important in their aetiology.

There is possibly an inappropriate and continuing inflammatory response to commensal microbes and/or environmental factors in a genetically susceptible person.

Histopathology:

Inflammatory changes are **continuous** and extend from the rectum for a variable distance towards the caecum.

The diagnosis is made by demonstrating:

- The endoscopic features of colitis at colonoscopy

And

- The histological features of colitis on examination of tissue biopsy samples.

And

- Excluding known infectious causes of colitis by stool examination.

Complications:

The complications of ulcerative colitis 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. Superimposed infectious colitis:
    - CMV
    - Clostridium difficile
5. Toxic megacolon/ toxic colitis.
6. Perforation.
7. Medication complications, predominantly relating to **immunosuppression.**

Long term complications:

8. Obstruction due to stricture formation.
9. Fistula formation.
10. Malignant change in the longer term:
    - Patients with UC have a 10-30 times increased chance of developing colon cancer, the risk increasing with extent and duration of disease.

Autoimmune associations:

Extraintestinal autoimmune complications of inflammatory bowel disease include:

1. Iritis/ episcleritis
2. Arthritis.
3. Skin involvement:
    - Rashes
    - Pyoderma gangrenosum ulcerations.

Clinical Assessment

Important points of history

1. Recurrent episodes of bloody diarrhea:
    - This is a hallmark feature of ulcerative colitis.

2. Recurrent bouts of abdominal pain, more commonly left sided.

In diagnosed cases:

1. Establish the patient's normal pattern of disease.
2. Establish the patient's usual maintenance drug regime.
3. Enquire as to who the patients usual specialist is, (liaison will often be necessary when planning treatment)

Important points of examination:

1. Vital signs.
2. Hydration status.
3. Look for signs of sepsis.
5. Check for signs and degree of GIT bleeding.
4. Abdominal examination:

Signs of possible toxic megacolon:

- Diffuse tenderness
- Abdominal distension
- Reduced/ absent bowel sounds.

Look for signs of a possible *surgical* complication such as perforation or peritonitis.

- Guarding (voluntary or involuntary)
- Rebound tenderness
- Rigidity.

Assessment of Severity:

It is important to detect the patient with severe exacerbation of disease as these patients require hospital admission and specialist consultation.

Patients with septic or surgical complications also need to be detected.

Severe exacerbation of disease is defined by the presence of: [1]

- **More than 6 bloody stools per day**

Plus at least one of:

- **Temperature greater than 37.5ºC**
- **Pulse rate greater than 100/minute**
- **Haemoglobin less than 100 g/L**
- **Serum albumin less than 35 g/L.**

Investigations

Blood tests:

1. FBE:

   - White cell count will be elevated in increased activity or secondary infective complications.

- The WCC may also be normal or depressed in patients on immunosuppressants.

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.
   - VBGs/ lactate
   - Nutritional deficiencies are common in IBD:
     - ♥ Iron
     - ♥ Folate
     - ♥ B12

Faecal M&C:

Faecal M&C is done for:

- Standard pathogens
- **Clostridium difficile (and toxin):**
  - ♥ There is a higher prevalence in IBD and increased mortality.
- **CMV** in severe colitis:
  - ♥ Especially for patients who are on immunosuppressants. CMV colitis is associated with increased morbidity and mortality.

Plain radiography:

CXR/ AXR, erect and supine looking for evidence of:

- Obstruction.
- Toxic megacolon
- Perforation.

CT imaging:

This is the best investigation when:

- The patient is unwell.
- Secondary complications are suspected, such as perforation or abscess formation.
- The diagnosis is unclear.

MRI:

MRI is beginning to be used more often, due to concerns about cumulative radiation exposure from repeated CT scanning, particularly in younger patients.

It is less readily available than CT however, and experience with this modality is much more limited.

Endoscopy:

Endoscopy is used for:

- Initial diagnosis.
- Staging activity/ response to therapy.
- Screening (for strictures or cancer).

Cautious sigmoidoscopy is safe in acute disease, but colonoscopy carries a risk of perforation.

Endoscopy is contraindicated in cases of toxic megacolon/ toxic colitis.

Management

The management of inflammatory bowel disease is developing rapidly.

The aims of treatment are to change the natural history of the disease and its long-term outcomes, rather than simply to achieve symptomatic control.

This is reflected in a trend towards earlier introduction of disease-modifying drugs (i.e immunomodulators and biological therapies), rather than persisting with less potent drugs (ie aminosalicylates, corticosteroids).

These improved expectations and outcomes have coincided with increased availability of biological drugs targeting tumour necrosis factor alpha (i.e infliximab, adalimumab).

Treatment in the ED:

Patients can present to the ED with:

1. A first presentation of their disease
2. An exacerbation of their disease
3. Complications of their disease:
    - Medical
    - Surgical
4. An adverse reaction from their medications.

In all cases there should be close consultation with the Gastroenterology Unit and the Surgical Unit when a surgical complication is diagnosed or suspected.

General treatment:

In general terms, management in the ED will involve:

Management of severe exacerbations of ulcerative colitis includes:

1. IV fluid resuscitation:
    - The immediate priority will usually be fluid resuscitation.
2. Nil orally.
    - Consider nasogastric tube.
3. Correct electrolyte disturbance:

    In particular:

    - Hypokalemia

- Hypoglycaemia.

4. Analgesia:

   - Opioids should be used with caution.

5. Antibiotics:

   IV antibiotics are not routinely required but should be given urgently in patients who are:

   - Toxic/ septicaemic
   - Have suspected toxic megacolon.
   - Have suspected surgical complications, such as peritonitis or gut perforation.

   Cefotaxime and metronidazole may be used.

6. Antidiarrheal agents.

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

7. Blood transfusion as indicated.

Specific medical treatments:

These should be guided by the Gastroenterology Unit.

The aims of drug therapy in ulcerative colitis are to induce remission in active disease, and then to maintain corticosteroid-free remission and prevent relapse.

The severity of the disease and the site(s) of the affected colon determine which drugs may be used and their route of administration.

In general if the disease is mild, topical (i.e rectal) therapy is often sufficient for proctitis alone, while combined topical and oral therapy is optimal for distal (left-sided) colitis.

If the disease is moderate or severe, or more extensive, oral or intravenous therapy is necessary.

In general terms the following initial options are available:

1. **Aminosalicylates:**

Aminosalicylates are drugs that contain **5-aminosalicylic acid (5-ASA)** and may be given **orally** or **rectally**.

Agents used include:

- Sulfasalazine
  - ♥ This agent is a sulfonamide and some patients cannot tolerate it. A history of allergic reaction to sulfonamide antibiotics contraindicates the use of sulfasalazine.

The aminosalicylate drugs that do *not* contain sulfonamide are:

- Balsalazide
- Olsalazine
- Mesalazine (oral and rectal formulations are available).

Patients whose symptoms flare while on maintenance doses of aminosalicylates should benefit if the dose is increased during a flare.

2. **Steroids:**

Corticosteroids also induce remission but have *no* role as maintenance therapy, because they do not prevent relapse and have unacceptable long-term adverse effects.

They are used in severe exacerbations.

The optimal duration of intravenous corticosteroid therapy is not known - it is generally continued for 3 - 5 days.

Substitute oral corticosteroids when disease activity has subsided and ensure response is maintained before discharge from hospital.

Options include:

- IV Hydrocortisone
- IV Methylprednisolone.

For more severe disease or for those unresponsive to above therapies:

3. **Thiopurine immunomodulatory drugs:**

These include:

- Azathioprine
- Mercaptopurine

These agents are effective for inducing remission and as maintenance therapy.

They have adverse effects however and may take 3 to 6 months to achieve their maximum benefit.

4. **Methotrexate:**

- Methotrexate may also be used to treat ulcerative colitis, but is less effective than the thiopurines.

For severe/ refractory cases:

5. Infliximab

6. Cyclosporin

Surgery:

Surgery (proctocolectomy with either ileal pouch–anal anastomosis or end-ileostomy) may be considered for treating **chronic refractory disease.**

Surgery is also done for **malignant disease.**

Indications for **emergency surgery** include:

- Toxic megacolon/ toxic colitis.
- Perforation
- Obstruction
- Abscess
- Fistulae
- Uncontrolled haemorrhage

Disposition:

All cases should be discussed with the **Gastroenterology Unit.**

There should also be early **Surgical consultation** when a surgical complication is diagnosed or suspected.

Patient Information Resources

Many patients require emotional support.

A number of organizations exist that may be able to offer assistance including:

- **The Australian Crohn's and Colitis Association (ACCA)**
  - ♥ www.acca.net.au
- **Australian Council of Stoma Associations (ACSA)**
  - ♥ www.australianstoma.com.au

References

1. eTG - July 2015
   - Gastrointestinal Therapeutic Guidelines 45th ed 2011.
2. K.Yates, L. Finnel; Inflammatory Bowel Disease in Textbook of Adult Emergency Medicine, Cameron et al 4th ed 2015.

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