



A PAPER ON ULCERATIVE COLITIS

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ABSTRACT

INTRODUCTION : It is a chronic inflammatory bowel disease consisting of fine ulceration in the inner mucosal lining of the large intestine. Inflammation starts at the lower end of the colon, just above the anus and extends upward in a continuous manner to variable distances. The terminal ileum is typically not involved but some patient with extensive disease may show endoscopic signs of "backwash ileitis".

When only a small portion of the lower intestine is involved then it is named as Ulcerative Proctitis, it is a milder form of the disease. UC is unrelated to ulcers found elsewhere in the gastrointestinal tract, such as stomach and duodenal ulcers, but it has many similarities to Crohn's disease. In 95% of cases the disease starts in rectum and spreads proximally. It is a diffuse inflammatory disease, firstly affecting the mucosa and superficially submucosa. Deeper layer of intestine wall is only affected in serious condition. There are multiple minute ulcers and microscopic evidences proves that the ulceration is almost always more severe and extensive than the gross appearance indicates.

Cancer risk in colitis : At 10 years, the risk of cancer in all patients with UC is 2%. This increases to 8% at 20 years and 18% at 30 years. It is more likely to occur if the whole colon is involved and if the disease starts in early life. The colon is involved rather than the rectum, and the maximal incidence is during the fourth decade.

KEYWORDS : Ulcerative colitis, pathophysiology, corticosteroids, surgery.

INTRODUCTION:

It is a chronic inflammatory bowel disease consisting of fine ulceration in the inner mucosal lining of the large intestine. Inflammation starts at the lower end of the colon, just above the anus and extends upward in a continuous manner to variable distances. The *terminal ileum* is typically not involved but some patient with extensive disease may show endoscopic signs of "backwash ileitis".

When only a small portion of the lower intestine is involved then it is named as *Ulcerative Proctitis*, it is a milder form of the disease.

UC is unrelated to ulcers found elsewhere in the gastrointestinal tract, such as stomach and duodenal ulcers, but it has many similarities to Crohn's disease.

Aetiology:

The cause of UC is unknown. It has been shown that 15% of patients with UC have a first degree relative with I.B.D. UC is more common in Caucasians than in blacks or Asians. In spite of intensive bacteriological studies, no organisms or group of organisms can be incriminated. Smoking seems to have a protective effect. It is believed that relapses are associated with periods of stress, but personality and psychiatric profiles are the same as those of the normal population.

Studies show that mucosal permeability increases with inflammation. This may be due to combination of genetic susceptibility and damage by toxins, as a result of that antigens may cause an influx of neutrophils and lymphocytes. This inflammation is usually dampened down in normal tissue, but lost in UC. It may be due to loss of tolerance to self antigens.

Epidemiology:

There are 10-15 new cases per 100,000 population a year in the UK. The prevalence is 160 per 100,000 population. The disease has been rare in Eastern population but is now being reported more commonly, suggesting an environmental cause that has developed as a result of an increasing 'westernisation of diet' and other social habits. The sex ratio is equal in among the first four decades of life, after that incidence in females becomes lower while in men remains same. It is uncommon before the age of 10 years and more prone in between 20-40 years of age.

PATHOLOGY:

In 95% of cases the disease starts in rectum and spreads proximally.

It is a diffuse inflammatory disease, firstly affecting the mucosa and superficially submucosa.

Deeper layer of intestine wall is only affected in serious condition.

There are multiple minute ulcers and microscopic evidences prove that the ulceration is almost always more severe and extensive than the gross appearance indicates.

In chronic condition, inflammatory polyps (pseudopolyps) occur in up to 20% of cases and may be numerous.

In severe fulminant colitis, a section of colon (usually the transverse colon) may become actually dilated with the risk of perforation (toxic megacolon).

On microscopic investigation, there is an increase in inflammatory cells in lamina propria, the walls of crypts are infiltrated by inflammatory cells and there are crypt abscesses. There is depletion of goblet cell mucin.

With time these changes become serious and precancerous changes can develop.

SYMPTOMS:

1. Watery or bloody diarrhoea
2. May be rectal discharge of mucus – either blood stained / purulent.
3. Pain – as an early symptom is unusual.
4. Characterised by relapses and remissions.
5. Anaemia and hypoproteinaemia.
6. Dehydration and fluid electrolyte losses.

Disease severity can be graded as:

1. Mild :- rectal bleeding / diarrhoea with four or fewer motions/day and the absence of systemic signs of disease.
2. Moderate :- more than 4 motions /day but no systemic signs of illness.
3. Severe :- more than 4 motions/day with one or more signs of systemic illness (fever over 37.5 °C, tachycardia more than 90/

min., hypoalbuminaemia less than 30g/l, weight loss more than 3kg.

Complications:

Acute:

- 1) Toxic dilatation.
- 2) Perforation
- 3) Haemorrhage

Chronic:

- 1) Cancer
- 2) Extra-alimentary manifestations: skin lesions, eye problems, liver disease.

Investigations:

1. Plain abdominal film – small bowel loops in the right lower quadrant may be a sign of severe disease.
2. Barium enema – principal signs: Loss of haustration, (especially in the distal Colon.) pseudopolyps, mucosal changes caused by granularity, in chronic cases, a narrow contracted colon.
3. Sigmoidoscopy - mucosa is hyperaemic and bleeds on touch and there may be a pus like exudate. There may be the presence of regeneration nodules or pseudopolyps. Later, tiny ulcers may be seen that appear to coalesce.
4. Colonoscopy and biopsy - to establish the extent of inflammation, to distinguish between UC and Crohn's colitis, to monitor response to treatment, to assess longstanding cases for malignant change.
5. Bacteriology - *Campylobacter* is the most common cause of infective colitis in UK. Other infective causes include *Shigella*, *Amoebiasis*.

In hospitalized patients – Pseudomembranous colitis.

In immunocompromised patients – Cytomegalovirus and Cryptosporidia.

Cancer risk in colitis:

At 10 years, the risk of cancer in all patients with UC is 2%. This increases to 8% at 20 years and 18% at 30 years. It is more likely to occur if the whole colon is involved and if the disease starts in early life. The colon is involved rather than the rectum, and the maximal incidence is during the fourth decade.

Treatment:

1. Conservative:-

In mild attacks:- rectally administered steroids.

Oral prednisolone 20-40mg/day – 3-4 week period.

One of the 5-ASA compounds should be given concurrently.

In moderate attacks:- oral prednisolone 40mg/day Steroid enemas twice daily and 5-ASA.

In severe attacks:- inj. Hydrocortisone 100-200mg four times daily, rectal infusion of prednisolone. Fluid and electrolyte balance should be maintained. If it does not respond within 3-5 days then surgery should be indicated.

Indications for surgery:

1. Severe or fulminating disease failing to respond to medical therapy.
2. Chronic disease with anaemia, frequent stools, urgency and tenesmus.
3. Steroid dependent disease.
4. Risk of neoplastic change.
5. Extraintestinal manifestations.
6. Rarely, severe haemorrhage or stenosis causing obstruction.

Operations:

1. Proctocolectomy and ileostomy.
2. Rectal and anal dissection.
3. Restorative proctocolectomy with an ileoanal pouch (Parks).

4. Colectomy and ileorectal anastomosis.
5. Ileostomy.
6. Ileostomy with a continent intra-abdominal pouch (Kock's procedure).

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