Patterns of Mucosal Inflammation in Diverticular Disease

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Topics

- Definition and Terminology
- Prevalence
- Clinical Picture
- Endoscopic Features
- Pathology and Pathogenesis
- Treatment
- Outcome.
Definition
Ludman and Shepherd Path 2002,34;568-272

- Inflammatory changes, suggested by colonoscopic features and confirmed by histology, in the luminal mucosa of the sigmoid colon affected by diverticular disease.
- Purely Luminal inflammation in DD.
- Irrelevant to the presence or absence of diverticulitis.
Diverticular Colitis (DC)

- Segmental Colitis (Cawthorne, Gibbs, Marks Gut 1983 24 A500)
- Crescentic Colitis
- Crescentic fold disease (Gore, Shepherd and Wilkinson Int. J. Colorectal Dis. 1992,7:76-81)
- Sigmoid Colitis
- Sigmoiditis
- Sigmoid Colitis Associated Diverticular Disease (SCADD)
Prevalence

- Difficult to estimate.
- Sub clinical
- Masked by the S&S of DD.
- Not generally recognised by the pathologists as a separate entity.
- In 25% of cases of sigmoid resection for DD there is inflammation of the mucosa.
- Few of those had the diagnosis of DC made before resection.
Prevalence

(Gore, Shepherd and Wilkinson (Int. J Colorectal Dis 1991)

- 2380 colonoscopies and sigmoidoscopies over 5 years.
- 34 cases of DC (1.42%).
- All initially had rectal sparing
- 3 patients proceeded subsequently to Ulcerative Colitis
Clinical presentation

Gore, Shepherd and Wilkinson (Int. J Colorectal Dis 1991)

- Mean age is 60.4 (32-87)
- Sex M:F 4:1
- One week to years.
- **Bleeding** 77%
- **Change of bowel habits** 59%
- **Abdominal pain** 50%
- Weight loss.
- Vomiting.
- Flatulence.
- Tenesmus.
Radiology

- Nothing specific.
- DD
- Pre diverticular muscular thickening
Endoscopic features

- Variable.
- Restricted to crescentic folds sparing the diverticular orifices.
- Range from mild erythema to florid active inflammation.
- Swollen red patch (s), oedema, congestion, exudates, friability.
- Prolapse.
Pathology: New Classification

- **Type I Ulcerative Colitis like.**
- Type II Crohn’s disease like.
- Type III Mucosal Herniation/ Polypoidal Mucosal Prolapse.
Association with Chronic Ulcerative Colitis

- In a very few cases of DC where the rectum was initially normal, the disease progressed to distal chronic ulcerative colitis. (Gore et al 1992, Pereira 1998) within 18 months.
Pathology

- Type I Ulcerative Colitis like.
- **Type II Crohn’s disease like.**
- Type III Mucosal Herniation / Polypoidal Mucosal Prolapse
Characterised

- Granulomas
- Inflammation
Old literature suggested co-existence of Crohn’s AND DD.

- Crohn’s disease of the colon and its distinction from diverticulitis (Schmidt, Lennard-Jones, Morson and Young Gut 1964,9,7-16).
- 2/26 patients had anal disease or vaginal fistula.
- 11/14 patients had granulomas in regional LN.
- \textit{Aggressive disease (high post operative complications and may need patient medical treatment).}
Old literature suggested co-existence of Crohn’s AND DD. 
Meyers, Alonso, Morson and Bartram (Gastroenterology 1978,74;24-31)

‘Our observations indicate that the involvement of diverticula by granulomatous colitis causes an increase incidence of diverticulitis’
More recent studies

- There is a Crohn’s type pathology in patients with DD (transmural granulomas, mucosal inflammation and fissuring).
- 9/11 cases the pathology is confined to the sigmoid colon.
- Most but not all will NOT behave as Crohn’s disease.
More recent studies
Bourroughs et al Histopath 1998,33;349-353

- Same pathological features as in the previous study
  BUT no fissuring ulceration.
- None of the cases after a median follow up of 51 months developed clinical features of Crohn’s disease.
- Granulomatous inflammation seems to be part of the spectrum of sigmoid diverticulitis.
- Caution should be exercised to avoid an inappropriate diagnosis of Crohn’s disease.
Summary of Crohn’s like Type

- Crohn’s type granulomas in the mucosa, wall and lymph nodes.
- Focal inflammation with variable activity.
- Mural lymphoid aggregates.
- Striking extra mural arterial intimal hyperplasia.
- Variable reports on fissuring ulceration.
- Most cases lack other features of Crohn’s disease elsewhere in the GIT.
- Better to be regarded as either a variant of DD or a localised form of Crohn’s disease akin to the appendix.
Pathology

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- Type II Crohn’s disease like.
- **Type III Mucosal Herniation / Polypoidal Mucosal Prolapse.**
Mucosal Herniation type
Goldstein and Ahmad AM J Clin Path 1997;107:438-444

- 100 cases of sigmoid resectates for DD-diverticulitis.
- Prominent mucosal folds (5 mm above Muscularis Propria) are seen in 91% of DD.
- 11% of DD have prolapse like mucosal abnormalities on the surface of the mucosal folds.
Features of mucosal herniation

- Tear drop or diamond shape glands.
- Fibrosis/muscular hyperplasia in the lamina propria.
- ‘Cap polyp’
- Myoglandualr polyp.
Pathogenesis of Type III

- Effect of mucosal redundancy and prolapse and exposure to ‘maximum mucosal shear’.
- Ischaemia.
- Bacterial overgrowth.
- Faecal stasis.
Medical Treatment

- Many cases respond to medical treatment for IBD.
- Sulphasalazine results in complete remission within 6 weeks.
- Hydrocortisone and mesalazine enema result in complete remission within 4 weeks (careful of exacerbating diverticulitis)!
- Fibre rich diet. (limited value)
Surgical Treatment

- In refractory and in emergency cases surgical treatment is required.
Summary

- Histological mucosal abnormalities are seen in DD which could:
  - Mimic UC
  - Mimic Crohn’s disease
  - Polypoidal Mucosal Prolapse.
  - For accurate diagnosis the pathologists must be aware of the endoscopic and clinical features.
  - Rectal biopsy is recommended.