CLINICAL @LERT

Ulcerative colitis extent varies with time but endoscopic appearances may be deceptive

Moum B, Ekbom A, Vatn MH, *et al*. Change in the extent of colonoscopic and histological involvement in ulcerative colitis over time. *Am J Gastroenterol* 1999;**94**:1564–9.

Question
What are the changes in the endoscopic and histological extent of ulcerative colitis (UC) if colonoscopy is repeated one year after diagnosis?

Design
Follow up study of a population based cohort of incident cases.

Methods
All new cases of UC occurring in a defined population were identified during a four year period (n=496) and when possible were subjected to a second colonoscopy (n=408) with histological material available in 384 (78%).

Results
After initial treatment, 47% of UC patients had remained in clinical remission until the time of follow up colonoscopy performed a median of 14 months after diagnosis. A total of 399 UC patients of whom 8% were symptomatic showed changes in the macroscopic distribution of colitis with progression in 14%, regression in 22%, and a normal macroscopic appearance in 30%. In comparison, histology showed progression in 20%, regression in 24%, and normal appearances in 24%. According to the Kappa statistics there was poor agreement between extent assessed by histology and colonoscopy both at diagnosis and at follow up. At diagnosis, histology showed more extensive disease than endoscopy in 4% and less extensive disease in 18% whereas at follow up, histology showed more extensive disease in 28% and less extensive disease in 12%. Correlation between histology and endoscopy was greatest for pancolitis both at diagnosis and follow up.

Conclusions
Agreement between colonoscopic and histological findings is better at diagnosis than at follow up. One year after diagnosis only a third of UC patients will have the same endoscopic disease extent as that found at diagnosis and in a third endoscopic appearances will be normal.

Comment

Patients with ulcerative colitis need to be able to obtain reliable advice about their likely prognosis and cancer risk. Up until now this has been difficult because the literature is imprecise. Studies determining progression over time or cancer risk have often been based on disease extent as determined by barium examinations. Moreover, some patients may have very severe distal disease while others may have very mild extensive disease. As has often been the case, a meticulous and very extensive Scandinavian study has helped to clarify the situation.

Moum *et al* have prospectively compared colonoscopic and histological findings at diagnosis and after 12–23 months of follow up in 384 cases of ulcerative colitis from a sample population of 496.[1] Some of the findings are predictable but useful nevertheless. Extensive colitis at diagnosis may become less extensive while distal disease may become more extensive. Significant change in extent or reversion to normal endoscopic or histological appearances occurred in more than half of the patients by the median 14 month follow up. This report supports the findings of a smaller study[2] which also suggested that change in colonoscopic extent of ulcerative colitis with time was the norm rather than the exception. This makes it unlikely that the striking proximal demarcation of disease that is often seen is due to the anatomical limit of the marginal artery, as suggested by Hamilton and colleagues.[3]

The study provides the best available data on short term progression of proctitis. Assessed on endoscopic appearances in 130 patients with proctitis, by the time of follow up 22% had progressed, 53% were unchanged, and 25% were normal. Since the follow up period was relatively short we will still have to rely on older studies based in part on radiology to determine likely long term outcome. The landmark studies came from St Mark's Hospital and showed that in patients with a diagnosis of proctitis based on a combination of rigid sigmoidoscopy and radiology, 12% extended to involve the descending colon above the iliac crest by 10 years and the cumulative risk of colectomy was 3–5% by 10 years[4] in comparison with 15% overall for patients with ulcerative colitis of any extent.[5] Extension of disease in 53.8% over a mean follow up of 12.7 years and a higher overall rate of surgery (37.6%) were reported in a review of 1116 patients with ulcerative colitis of any extent from the Cleveland Clinic,[6] and other radiological based surveys (reviewed by Debinski and Kamm[7]) have shown rates of about 30% for progression of disease extent over time.

Perhaps unsurprisingly in Moum's study there was overall agreement between colonoscopy and histology in only 78% of cases at diagnosis and 60% at follow up. At follow up, 37% of those thought to have inflammation at colonoscopy had normal histology. Unfortunately, the colonic evidence of inflammation in these patients was not stated. Reddening of the mucosa has previously been shown to correlate poorly with histological inflammation in the stomach[8] and this re-emphasises the importance of endoscopists reporting relatively objective features such as ulceration, contact bleeding, and loss of vascular pattern

rather than a subjective change in colour intensity which may just reflect a transient change in mucosal perfusion. An impressive 24% of patients with colitis had completely normal histology at follow up. It is not stated how many biopsies had been taken per case however.

Another important conclusion from this study relates to selection of patients for cancer surveillance. Not only were 13% (34/408) of patients classified as having proctitis or left sided colitis at endoscopy reclassified as extensive colitis on histological criteria but the variation of both colonoscopic and histological criteria between diagnosis and follow up makes it impossible to determine with any accuracy which patients should be regarded as having extensive colitis with regards to long term surveillance. This reinforces the findings of an earlier UK study which reported a change from distal to more extensive colitis in 43% of patients monitored during a colonoscopic surveillance programme.[9] The implication of this would seem to be that an "all or none" approach to surveillance might be more appropriate than a rather unreliable selection of patients based on disease extent. A longer term prospective study of the Scandinavian patient cohort might eventually provide clearer evidence for this.

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1 Moum B, Ekbom A, Vatn MH, *et al.* Change in the extent of colonoscopic and histological involvement in ulcerative colitis over time. *Am J Gastroenterol* 1999;**94**:1564–9.
2 Niv Y, Bat L, Ron E, *et al.* Change in the extent of colonic involvement in ulcerative colitis: a colonoscopic study. *Am J Gastroenterol* 1987;**82**:1046–51.
3 Hamilton MI, Dick R, Crawford L, *et al.* Is proximal demarcation of ulcerative colitis determined by the territory of the inferior mesenteric artery? *Lancet* 1995;**345**:688–90.
4 Powell-Tuck J, Ritchie JK, Lennard-Jones JE. The prognosis of idopathic proctitis. *Scand J Gastroenterol* 1977;**12**:727–32.
5 Ritchie JK, Powell-Tuck J, Lennard-Jones JE. Clinical outcome of the first ten years of ulcerative colitis and proctitis. *Lancet* 1978;**1**:1140–3.
6 Farmer RG, Easley KA, Rankin GB. Clinical patterns, natural history, and progression of ulcerative colitis. A long-term follow-up of 1116 patients. *Dig Dis Sci* 1993;**38**:1137–46.
7 Debinski H, Kamm MA. Natural history of ulcerative colitis. In: Allan RN, Rhodes JM, Hanauer SB, *et al*, eds. *Inflammatory bowel diseases*. London: Churchill Livingstone, 1997:463–73.
8 Elta GH, Appelman HD, Behler EM, *et al.* A study of the correlation between endoscopic and histological diagnoses in gastroduodenitis. *Am J Gastroenterol* 1987;**82**:749–53.
9 Jones HW, Grogono J, Hoare AM. Surveillance in ulcerative colitis: burdens and benefit. *Gut* 1988;**29**:325–31.