

BSG/ACP Liver/GI Update

7th December 2012

Pathology of the 'normal' colon

Dr Adrian C Bateman

Consultant Histopathologist

Southampton

**‘The normal colon has no pathology by
definition’**

Dr Angus McGregor
6th December 2012, Leeds

THE END

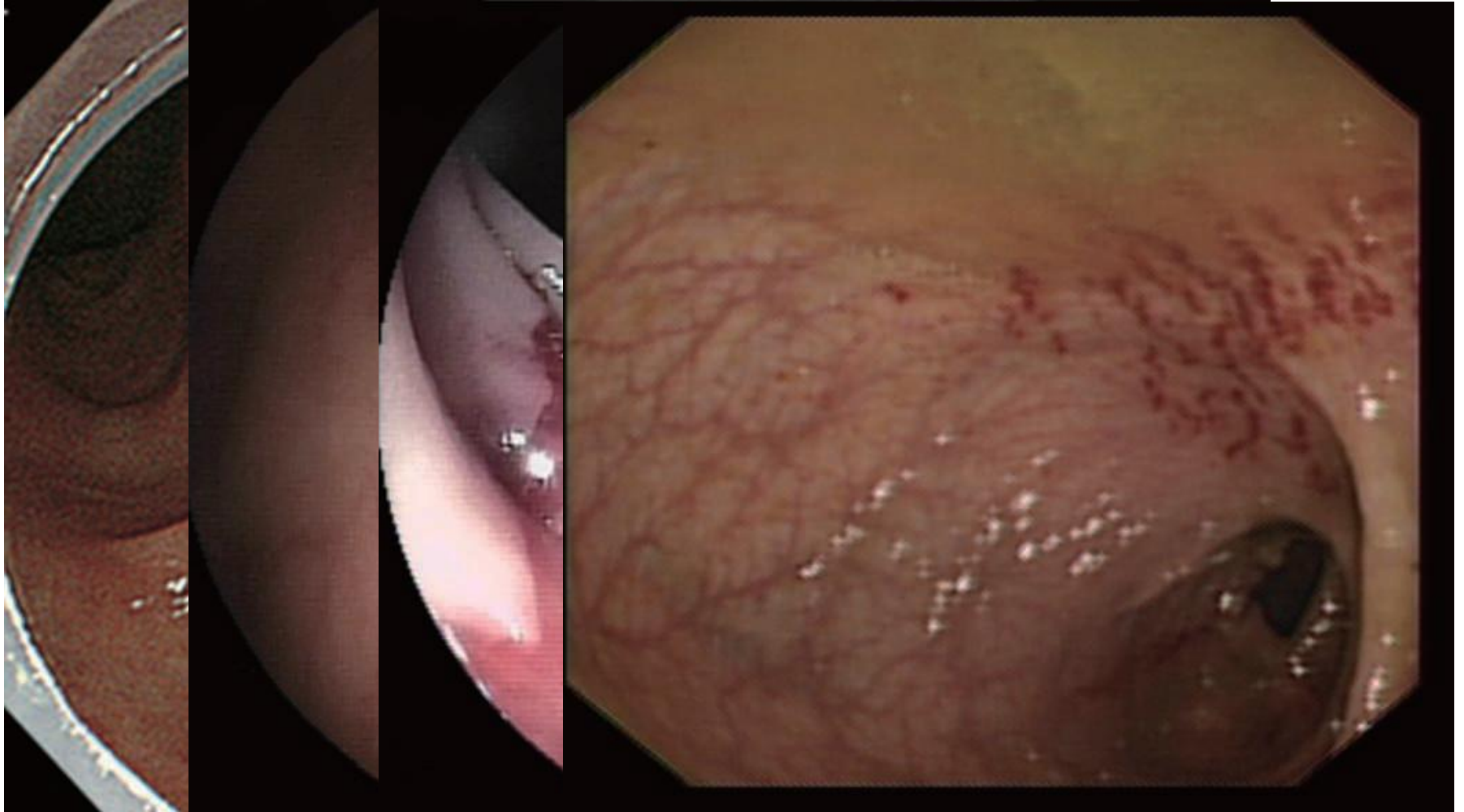
Plan

- Microscopic colitis
- Focal active colitis
- Patients with known IBD
- Colonoscopic biopsy audit
- Summary

Microscopic colitis

- Colonoscopy normal
 - Not always! Koulaouzidis & Saeed 2011
- Diagnosis on made on biopsy
- Lymphocytic colitis
- Collagenous colitis
 - May see features of both conditions in the same patient

Mucosal lesions



Microscopic colitis

- Profuse watery diarrhoea
- Normal architecture
- *Mild to moderate diffuse increase in lamina propria chronic inflammation*
 - Understand the normal chronic inflammatory cell population of the colonic mucosa
- Additional changes

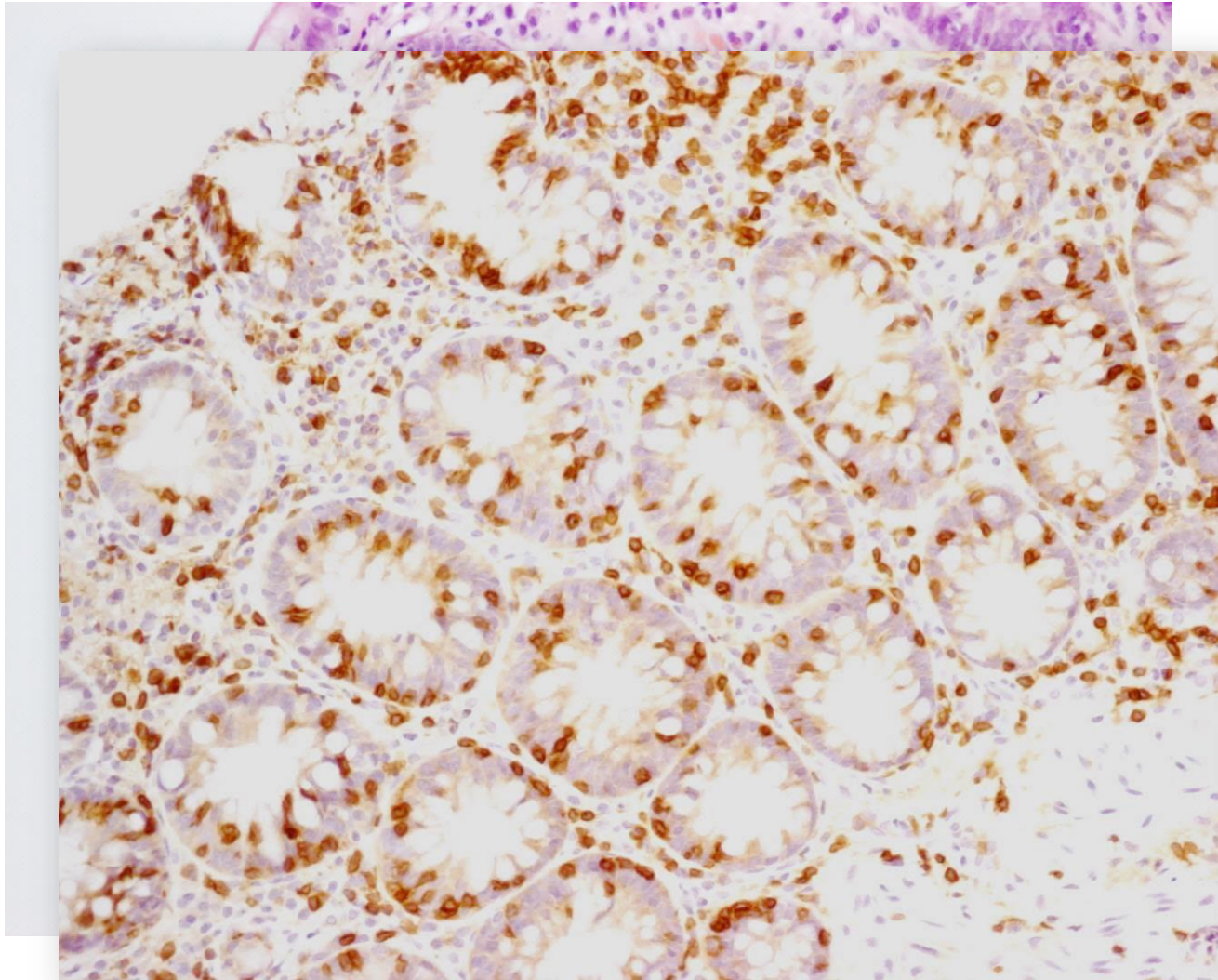
Microscopic colitis

- Clinical correlations
 - Both F>M but especially collagenous colitis
 - 50s and 60s
 - Associated features otherwise similar
 - Autoimmune disease
 - Arthritis
 - Underlying causes
 - Are they part of the same spectrum?

Lymphocytic colitis

- Increase in intra-epithelial lymphocyte numbers
- Surface and crypt epithelium
- Upper limit of normal ~ 20 lymphocytes per 100 epithelial cells

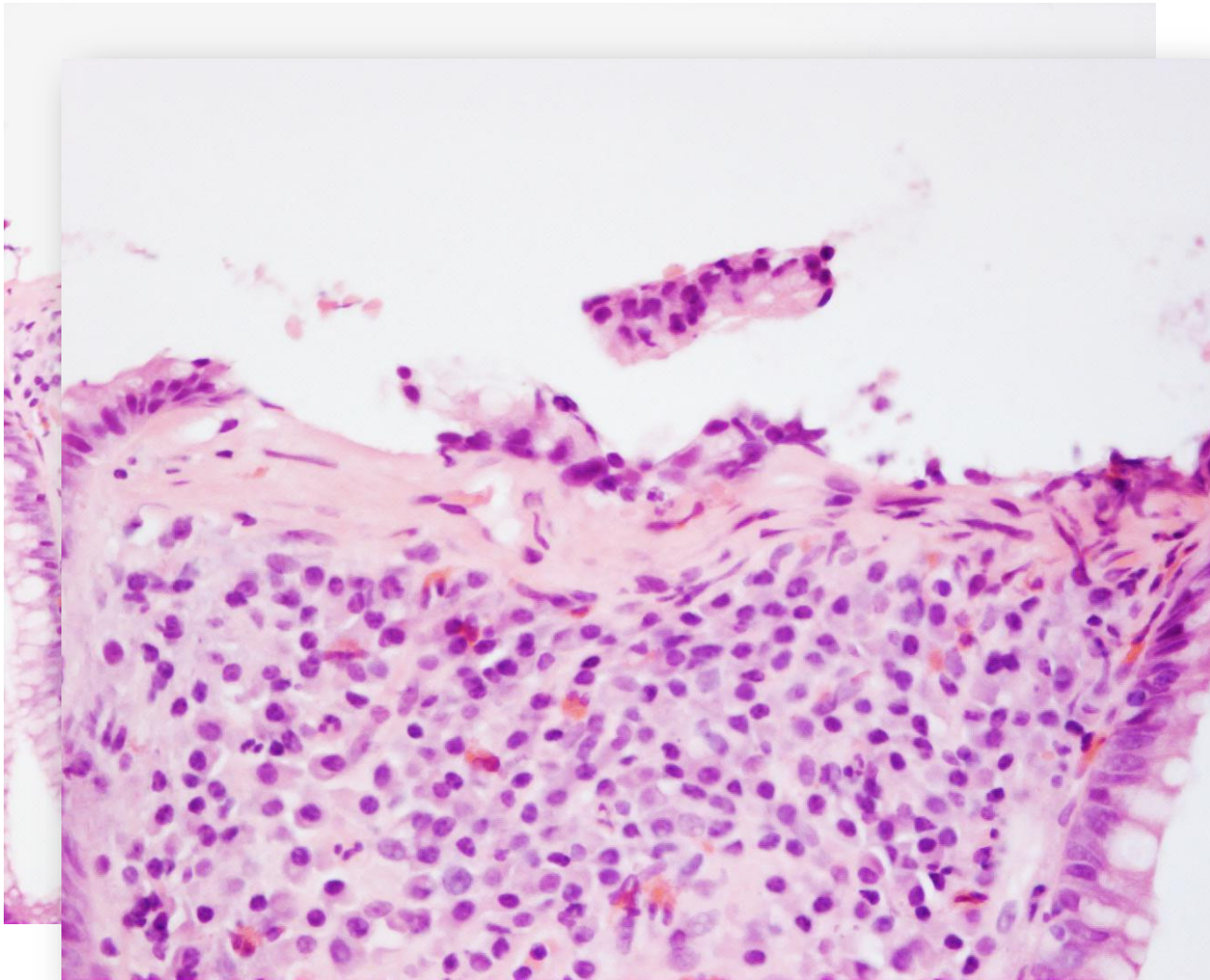
Lymphocytic colitis



Collagenous colitis

- Thickening of subepithelial collagen plate
- Upper limit of normal ~10 microns
- Entrapment of capillaries
- Artefactual loss of surface epithelium
- Some increase in intra-epithelial lymphocyte number

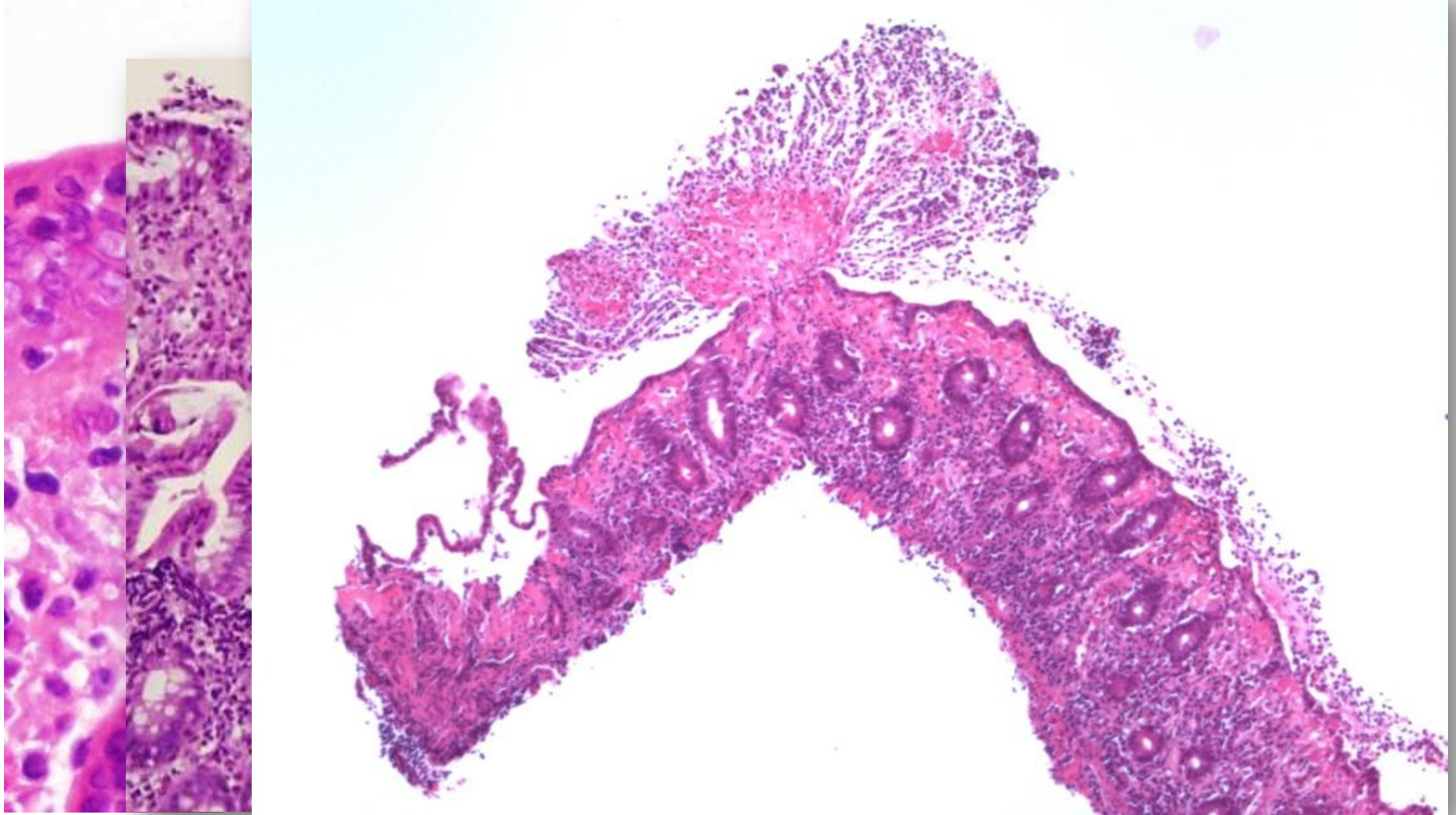
Collagenous colitis



Collagenous colitis

- Variants – uncommon!
- Collagenous colitis with giant cells
- Granulomatous collagenous colitis
 - Don't confuse with Crohn's disease
- Pseudomembranous collagenous colitis
 - Don't confuse with pseudomembranous colitis

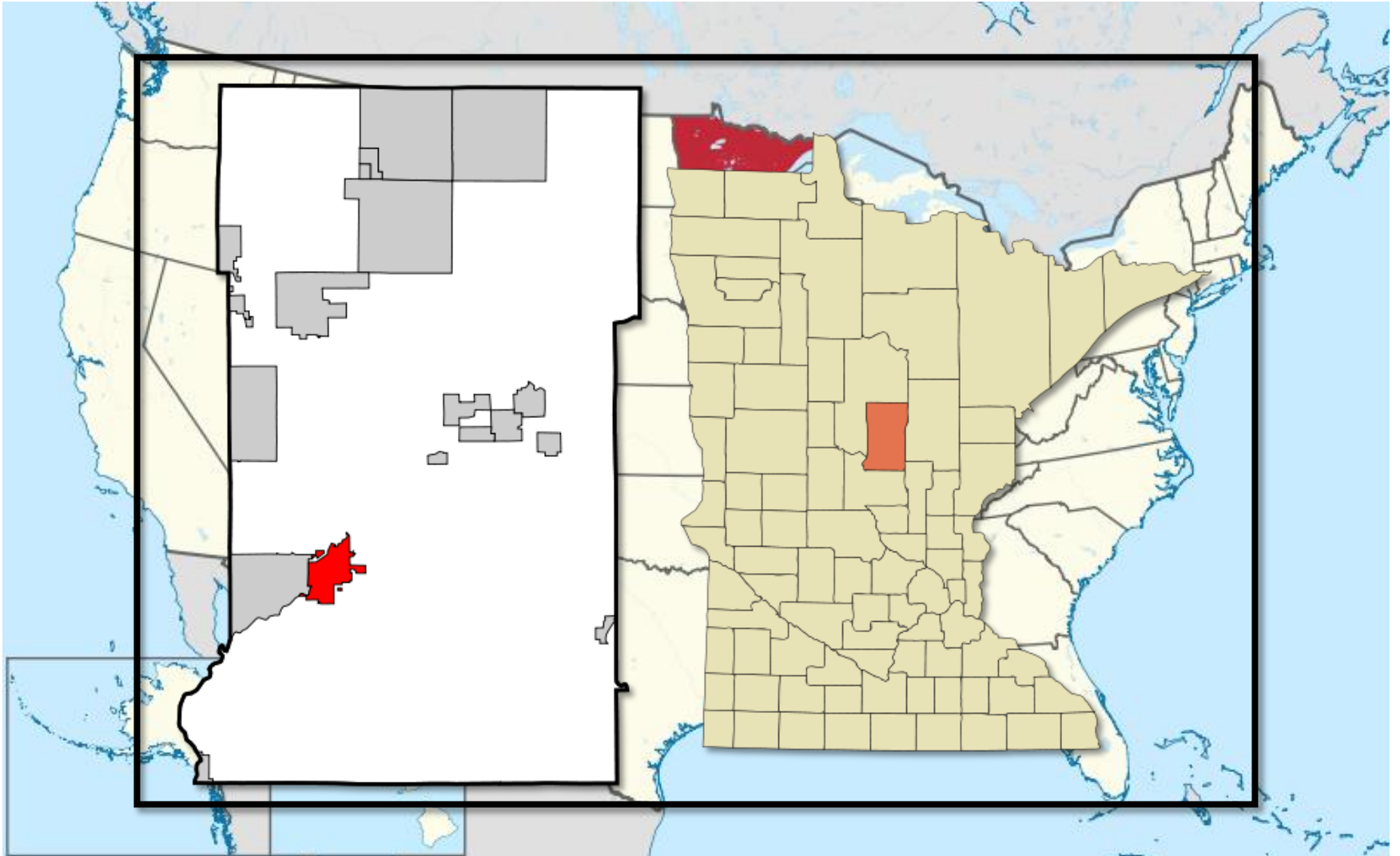
Collagenous colitis



Microscopic colitis

- True incidence may be underestimated
- Cause unknown
 - Possible abnormal response to luminal antigens
 - Diverted colons improve e.g. Hartmann's
 - Bile acids
 - Drugs: NSAIDs, SSRIs, beta-blockers, statins, PPIs
 - Infectious agents

Brainerd diarrhoea



Brainerd diarrhoea

- First described in Brainerd, Minnesota in 1983
- Sudden onset watery diarrhoea
- 122 cases; 9 further similar outbreaks
 - Lasts weeks-months; no treatment
- Linked to raw milk or untreated water
- Indistinguishable from microscopic colitis
- *Is this evidence that some cases of microscopic colitis might have an infectious aetiology?*

Focal active colitis

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Sclerosing Mesenteritis Rap



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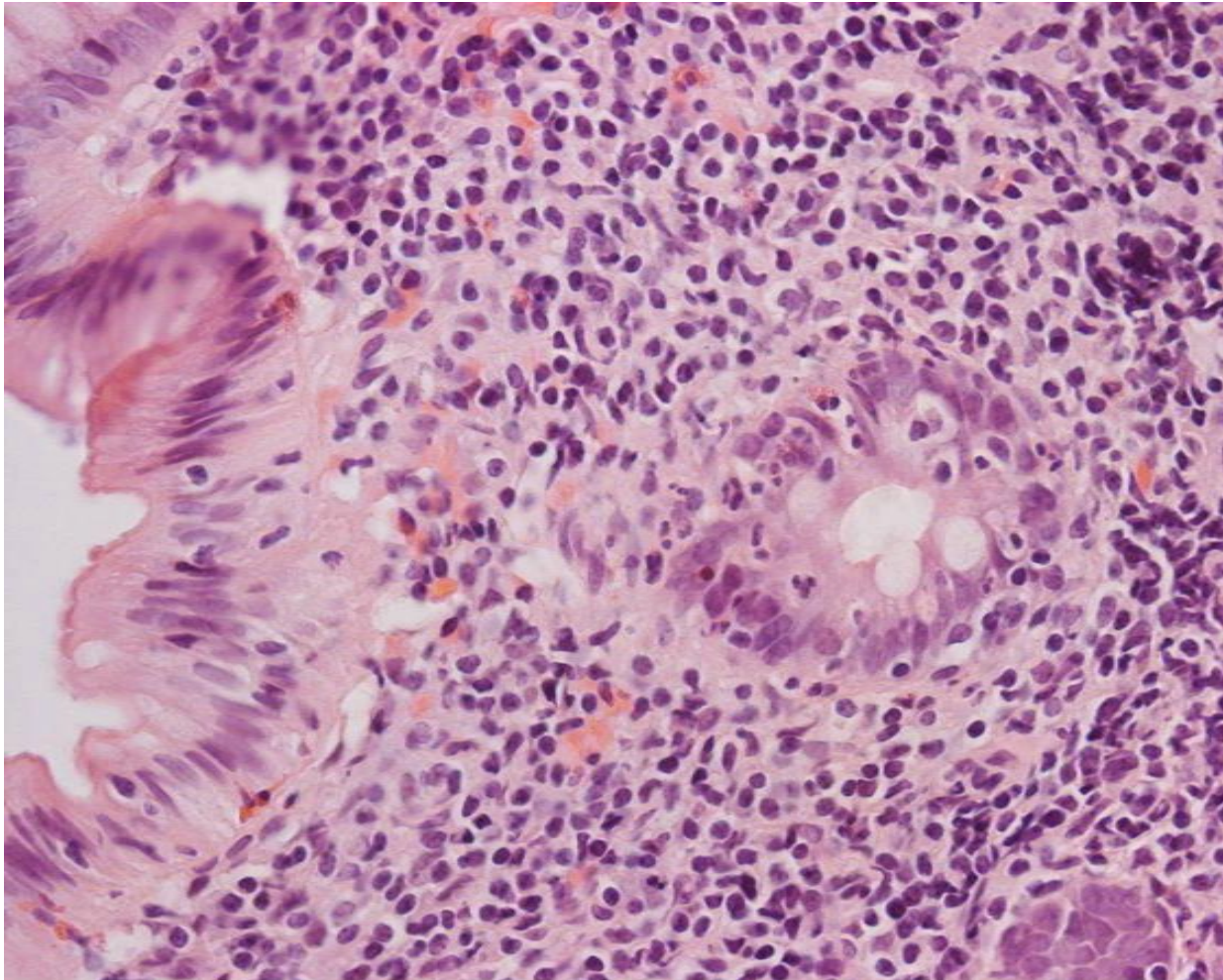
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Focal active colitis

- Normal architecture
- Patchy mild acute inflammation
 - Cryptitis
 - Crypt abscesses
- Is an accompanying patchy increase in chronic inflammation allowed?



Focal active colitis



Focal active colitis

- **Etiology**
 - Hum Pathol. 1997 Jun;28(6):729-33.
The clinical significance of focal active colitis.
 - **(Review)** Greenson JK, Stern RA, Carpenter SL, Barnett JL.
Department of Pathology, University of Michigan Medical Center, Ann Arbor
 - **Drugs e.g. NSAID**
- Ischaemia
- Bowel preparation
- Sometimes no obvious cause

Focal active colitis

Histopathology 2011, 59, 850–856. DOI: 10.1111/j.1365-2559.2011.04019.x

- 90
- NS
- Focal active colitis: a prospective study of clinicopathological correlations in 90 patients
- Sharan Shetty,¹ Salim M Anjarwalla,² Jyoti Gupta,² Chris J W Foy,¹ Ian S Shaw,¹ Roland M Valori¹ & Neil A Shepherd²
- ¹Departments of Gastroenterology and South West Research Design Service, Gloucestershire Royal Hospital, Gloucester, UK, and ²Gloucestershire Cellular Pathology Laboratory, Cheltenham General Hospital, Cheltenham, UK
- Inf
- Date of submission 17 January 2011
Accepted for publication 24 March 2011
- IBD diagnosed subsequently in 16%
- Mainly Crohn's disease but 2 patients with UC

Patients with known IBD

- **Int** **Ulcerative colitis: patterns of involvement in colorectal biopsies and changes with time.**
IB Kleer CG, Appelman HD.
Department of Pathology, University of Michigan Medical Center, Ann Arbor, USA.
- Colonoscopy may reveal minor changes or patchy inflammation
- *The colonoscopic and histopathological distributions of disease may not match*
- Biopsies from previously inflamed bowel segments may show normal appearances

Colonoscopic biopsy audit

- 71 New ways of working
Research: The endoscopically normal colon: when is mapping biopsy histopathologically justifiable?
V J Elliot, A C Bateman, B Green
Frontline Gastroenterol 2012;**3**:2 104-108 Published Online First: 1 December 2011
doi:10.1136/flgastro-2011-100023
- His
- 308/717 described as endoscopically normal
- 278/308 showed normal/near normal biopsies
- 30 cases with abnormal biopsies
 - 9 cases of microscopic colitis
 - 6 cases had known IBD

Colonoscopic biopsy audit

- *Change in bowel habit*
- Total 260 cases – 145 endoscopically normal
- 132/145 normal histology/minor changes
 - 5 lymphocytic colitis
 - 3 melanosis coli
 - 1 inflammatory bowel disease & 1 ‘colitis’
 - 1 drug-related
 - 1 hyperplastic polyp!

Colonoscopic biopsy audit

- *Known inflammatory bowel disease*
- Total 110 cases – 17 endoscopically normal
- 11/17 normal histology/minor changes
 - 2 inflammatory bowel disease (UC)
 - 2 inflammatory bowel disease (NOS)
 - 1 ‘colitis’
 - 1 ‘proctitis’

Colonoscopic biopsy audit

- *Bright red rectal bleeding as only symptom*
- Total 53 cases – 12 endoscopically normal
- All showed normal histology/minor changes

Colonoscopic biopsy audit

- *Take-home messages*
- 90% of biopsies from patients with endoscopically normal mucosa showed normal/near normal appearances
- Most patients with significantly abnormal biopsies had change in bowel habit or known colonic disease
- Microscopic colitis & melanosis most common

Summary

- Important changes may be present in biopsies from patients with endoscopically normal colons
- ‘True’ microscopic colitis, very early IBD, infection
- In the presence of fresh rectal bleeding, biopsies from the ‘normal’ colon very rarely reveal significant pathology

What to try to avoid

- Patient presenting with fresh rectal bleeding
- Flexible sigmoidoscopy normal
 - Apart from sometimes describing the likely source of bleeding e.g. haemorrhoids...
- Mapping biopsies taken ‘to exclude microscopic colitis’
- Biopsies almost always normal!
- How do we stop this happening?

References

- Koulaouzidis A, Saeed AA. Distinct colonoscopy findings of microscopic colitis: not so microscopic after all? *World J Gastroenterol* 2011; **17**: 4157-4165
- Greenson JK, Stern RA, Carpenter SL, Barnett JL. The clinical significance of focal active colitis. *Hum Pathol* 1997; **28**: 729-733
- Shetty S, Anjarwalla SM, Gupta J, *et al*. Focal active colitis: a prospective study of clinicopathological correlations in 90 patients. *Histopathology* 2011; **59**: 850-856
- Kleer CG, Appelman HD. *Am J Surg Pathol* 1998; **22**: 983-989
- Elliot VJ, Bateman AC, Green B. The endoscopically normal colon: when is mapping biopsy histopathologically justifiable? *Frontline Gastroenterol* 2012; **3**: 104-108

THANKS FOR LISTENING

