using sections stained with elastica haematoxylin and eosin. Nine of the tumour specimens showed extramural venous invasion only, whereas eight contained both intramural and extramural venous invasion. The presence of intramural venous invasion was not recorded in the final reports of any of these 17 specimens.

Eighty three specimens showed no evidence of extramural venous invasion on staining with both conventional haematoxylin and eosin and elastica haematoxylin and eosin. Intramural venous invasion was identified by elastica haematoxylin and eosin staining in 19 of these specimens, of which intramural venous invasion was recorded in the final report of two specimens.

Conclusion

In this study, extramural venous invasion was identified in 17% of the patients by the addition of an elastica haematoxylin and eosin stain (fig 2). As the identification of extramural venous invasion is an important independent prognostic factor in colorectal adenocarcinomas, it is clear from our results that the addition of an elastica haematoxylin and eosin stain yields important prognostic information. This result is similar to that of Vass *et al*,⁷ who identified an additional 19% of specimens with extramural venous invasion in 75 specimens examined.

Intramural venous invasion was identified in 27% of the specimens by staining with elastica haematoxylin and eosin, but was recorded in only two of the final histological reports, as it was not part of the minimum dataset. Vass *et al*⁷ showed a similar increase in detection of intramural vascular invasion from 10% to 29% by the addition of an elastica haematoxylin and eosin stain. We noted that many cases of intramural venous invasion embedded deep in the tumour mass are difficult to identify by conventional haematoxylin and eosin staining, but are highlighted by elastica staining (fig 3). Several cases of extramural venous invasion were similarly embedded in the tumour mass and were thus difficult to identify without an elastica haematoxylin and eosin stain. Intramural vascular invasion is not currently accepted as an independent prognostic factor in colorectal cancer. With the use of elastica haematoxylin and eosin staining, future studies may elucidate the prognostic significance of this finding.

In conclusion, our findings in the non-specialist reporting department of a district general hospital support those of Vass *et al*⁷ and provide further evidence for the value of incorporating an elastica haematoxylin and eosin stain in the standard histopathological reporting of colorectal adenocarcinomas.

G Smith, N Waddell, A Riley
Stirling Royal Infirmary, Stirling, UK

Correspondence to: G Smith, Department of Pathology, Stirling Royal Infirmary, Stirling, UK; biggud@hotmail.com

doi: 10.1136/jcp.2005.032466

References

- 1 Brown CF, Warren S. Visceral metastasis from rectal carcinoma. *Surg Gynaecol Obstet* 1938;**66**:611–21.
- 2 Talbot IC, Ritchie S, Leighton MH, *et al*. The clinical significance of invasion of veins by rectal cancer. *Br J Surg* 1980;**67**:439–42.

- 3 Krasna MJ, Flanbaum L, Cody RP, *et al*. Vascular and neural invasion in colorectal carcinoma. *Cancer* 1988;**61**:1018–23.
- 4 Shirouzu K, Isomoto H, Kakegawa T, *et al*. A prospective clinicopathological study of venous invasion in colorectal cancer. *Am J Surg* 1991;**162**:216–22.
- 5 Horn A, Dahl O, Morild I. Venous and neural invasion as predictors of recurrence in rectal adenocarcinoma. *Dis Colon Rectum* 1991;**34**:798–804.
- 6 Ouchi K, Sugawara T, Ono H, *et al*. Histologic features and clinical significance of venous invasion in colorectal carcinoma with hepatic metastasis. *Cancer* 1996;**78**:2313–17.
- 7 Vass DG, Ainsworth R, Anderson JH, *et al*. The value of an elastic tissue stain in detecting venous invasion in colorectal cancer. *J Clin Pathol* 2004;**57**:769–72.

Crohn's disease with inflammatory splenic granuloma

The sites of extragastrointestinal granuloma formation in Crohn's disease are numerous.¹ As the association of the spleen has been recorded on only one previous occasion,² I wish to highlight this occurrence and to draw attention to a possible association with aseptic abscess formation.

A 34-year-old man, with a history of rectal bleeding, abdominal pain and weight loss, on undergoing sigmoidoscopy, was found to have mucosal congestion, extensive erythema with granularity, patchy mucopurulent exudates, multiple small ulcers and a patchy cobblestone mucosa affecting the sigmoid colon, but with rectal sparing. Microscopic examination showed mixed acute and chronic inflammation with ulceration and crypt abscess formation, but no evidence of granuloma formation, dysplasia or malignancy. The appearances were consistent with inflammatory bowel disease, but not diagnostic for either Crohn's disease or ulcerative colitis. A year later, the patient was readmitted with severe left upper quadrant pain, and on laparotomy was found to have an enlarged spleen with a small amount of free blood in the peritoneal cavity lateral to the spleen. A splenectomy was performed and microscopic examination showed marked sinusoidal congestion and a single granuloma containing small numbers of neutrophils centrally, but without necrosis (fig 1).

Crohn's disease is a chronic, relapsing disease primarily affecting the gastrointestinal tract.¹ Extraintestinal manifestations include cutaneous (metastatic) lesions, pulmonary, gallbladder, liver, skeletal muscle, breast, bone, joint and skeletal muscle involvement.^{1–3} Such manifestations can be concurrent with, precede or follow episodes of Crohn's disease. Association of the spleen in Crohn's disease is rare, however, and only one previous case has been reported.² The patient was a 42-year-old man, with a 10-year history of Crohn's disease, who presented with hepatosplenomegaly, fever and left upper quadrant pain. Non-caseating granulomas were present in the liver and bone marrow biopsy and the colonic biopsy specimen showed mild Crohn's colitis. Association of the spleen was indicated by splenomegaly, which resolved after treatment with high-dose prednisolone. This case, therefore, seems to be the first one to histologically prove an association of the spleen by granuloma formation in Crohn's disease, although the splenomegaly in this patient was more probably caused by sinusoidal expansion. Aseptic abscesses occurring in the spleen and

Figure 1 Splenic granuloma with central aggregate of neutrophils.

other organs were documented in six patients with Crohn's disease by Macaya *et al*.⁷ These aseptic abscesses had a granulomatous pattern and consisted of central supuration surrounded by a histiocytic and giant-cell reaction, usually in palisaded order. These authors suggest that the condition may be related to neutrophilic dermatosis (Sweet's disease), a cutaneous neutrophilic disease that sometimes complicates Crohn's disease. This case with a non-caseating epithelioid granuloma containing only a small number of neutrophils confirms the association of the spleen in Crohn's disease. The additional presence of a neutrophilic component raises the possibility of a relationship with aseptic abscesses and altered local cytokine production in the pathogenesis of splenic granulomas in Crohn's disease.

J D Coyne

Correspondence to: Department of Pathology, Wythenshawe Hospital, Manchester M23 9LT, UK; johnnycoyne@doctors.org.uk

doi: 10.1136/jcp.2005.032508

Competing interests: None declared.

References

- 1 Rosai J. Gastrointestinal tract. In: *Rosai and Ackerman's surgical pathology*. Vol. 1. Edinburgh: Mosby, 2004; 615–871.
- 2 Puli SR, Presti ME, Alpert MA. Splenic granulomas in Crohn's disease. *Am J Med Sci* 2003;**326**:141–4.
- 3 Satin JS, Walker RC. Granulomatous hepatitis: a retrospective review of 88 cases at the Mayo Clinic. *Mayo Clin Proc* 1991;**66**:914–8.
- 4 Al-Binali AM, Scott B, Al-Garni A, *et al*. Granulomatous pulmonary disease in a child: an unusual presentation of Crohn's disease. *Pediatr Pulmonol* 2003;**36**:76–80.
- 5 Poon KS, Gilks CB, Masterson JST. Metastatic Crohn's disease involving the genitalia. *J Urol* 2002;**167**:2541–2.
- 6 Ladefoged K, Balshov E, Jemec GBE. Crohn's disease presenting as a breast abscess: a case report. *J Eur Acad Dermatol Venereol* 2001;**15**:343–5.
- 7 Macaya A, Marcoval J, Borda X, *et al*. Crohn's disease presenting as prepuce and scrotal edema. *J Am Acad Dermatol* 2003;**49**:5182–3.

Squamous metaplasia of the rectum in a case of Hirschsprung's disease: a coincidence or an association

The normal anosquamous junction is located 2.3 cm away from the anal margin and this junctional zone may extend up to a maximum of 1 cm above the dentate line.