Of the 76 cases, 7 cases were classified as non-responders to chemotherapy. In all seven cases, we confirmed the diagnosis of SCC on biopsy review.

In this small series, non-response to chemotherapy did not seem to be related to misclassification of SCC on biopsy.

T N Doig, W A Wallace, D M Salter, H Monaghan

Department of Laboratory Services (Pathology), Royal Infirmary of Edinburgh, Edinburgh, UK

E Brown

Edinburgh Cancer Centre, Western General Hospital, Edinburgh, UK

Correspondence to: H Monaghan, Department of Laboratory Services (Pathology), Royal Infirmary of Edinburgh, 51 Little France Crescent, Little France, Edinburgh EH16 4SA, UK; hannah.monaghan@luht.scot.nhs.uk

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Small-cell neuroendocrine carcinoma of the breast

We read the recent report of three cases of small-cell neuroendocrine carcinoma (SCNC) of the breast with interest.¹ We do agree with the authors that the vexing question of whether this is a primary breast neoplasm or a secondary deposit from other sites, most commonly from the bronchus, has to be considered. We would like to share our experience with two cases that we dealt with in the Department of Histopathology, East Lancashire Hospitals NHS Trust, Burnley, UK, and, in particular, the application of two more immunological markers, neuronal adhesion molecule (CD56) and thyroid transcription factor 1 (TTF1) to those already used by the authors. One of the patients was an elderly woman with a large mass in the breast. Histologically, the mass was a SCNC, with positive immunohistochemistry for CD56 and TTF1. No in situ component was observed. Clinical and imaging studies showed that this was a metastasis from a primary lung tumour. The second patient was a middle aged woman who presented with a breast mass of 5 cm. A core biopsy specimen showed SCNC, again positive for CD56 and TTF1. Clinical and imaging studies showed

Figure 1 In situ carcinoma showing positive staining for thyroid transcription factor 1.

that this was an isolated lesion in the breast, and it was therefore diagnosed as a primary breast tumour. After neoadjuvant chemotherapy, a mastectomy was performed. It showed a 3 cm tumour composed predominantly of SCNC, but with a central focus of invasive grade III carcinoma of no specific test, which was negative for CD56 and TTF1. Interestingly, the in situ component was of SCNC type, showing positive staining for CD56 and TTF1 (fig 1). We re-emphasise that TTF1 cannot be used to discriminate between a primary breast SCNC and a secondary deposit from a primary in the bronchus, as extrapulmonary SCNC can often be positive for TTF1.^{2,3}

In summary, we recommend the addition of CD56 to the other immunological markers for SCNC and advise caution in interpreting TTF1 immunoreactivity in extrapulmonary SCNC.

W D Salman, J A F Harrison, A J Howat

Department of Histopathology, Burnley General Hospital, Burnley BB10 2PQ, UK

Correspondence to: A J Howat; Alec.Howat@elht.nhs.uk

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The benefits of elastica – no stretch of the imagination

Venous invasion is a well-established prognostic factor in colorectal cancer and is an independent prognostic indicator of visceral metastases and decreased survival time.¹⁻⁴ Unfortunately, the use of only conventional haematoxylin and eosin staining to determine the incidence of venous invasion has yielded a wide range of results (10-90%).¹⁻⁶ In the July 2004 publication of the *Journal of Clinical Pathology*, Vass *et al*⁷ showed that using an elastica stain considerably increased the sensitivity of identifying venous invasion in colorectal cancer. Their study was carried out in a university teaching hospital by a specialist in colorectal pathology, as opposed to the original reports, which were made by a large team of non-specialists. The aim of our study was to determine whether using this technique had a similar benefit in the district general hospital setting with non-specialist reporting.

Methods

From our local database of colorectal audit forms, we identified 100 colorectal tumour resections, during the period 12 October 2003 to 31 December 2004, reported as having no evidence of extramural vascular invasion. A single section was cut from tumour blocks (three per case), stained with elastica and counterstained with haematoxylin and eosin. A trainee pathologist (GS) and a consultant pathologist (AR) assessed the presence of

Figure 1 Incidence of vascular invasion shown by staining with elastica haematoxylin and eosin.

Figure 2 Extramural venous invasion. An artery (top left) is shown, with the adjacent vein (bottom right) containing tumour. Elastica staining highlights the elastic fibres of both the artery and the vein.

Figure 3 Intramural venous invasion. Elastica stain highlights a vein (10 o'clock of centre) containing tumour. As this vein is embedded in the tumour, it is difficult to identify by conventional haematoxylin and eosin staining. This phenomenon is also seen in extramural venous invasion.

both extramural and intramural venous invasion. Controversial cases were examined through a double-headed microscope.

Results

Figure 1 details the results for the 100 tumour specimens examined using an elastica haematoxylin and eosin stain.

Of the 100 specimens (all of which had previously been reported as negative for extramural venous invasion by conventional haematoxylin and eosin staining), 17% were found to have extramural venous invasion by

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

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Crohn's disease with inflammatory splenic granuloma

The sites of extragastrintestinal 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

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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.