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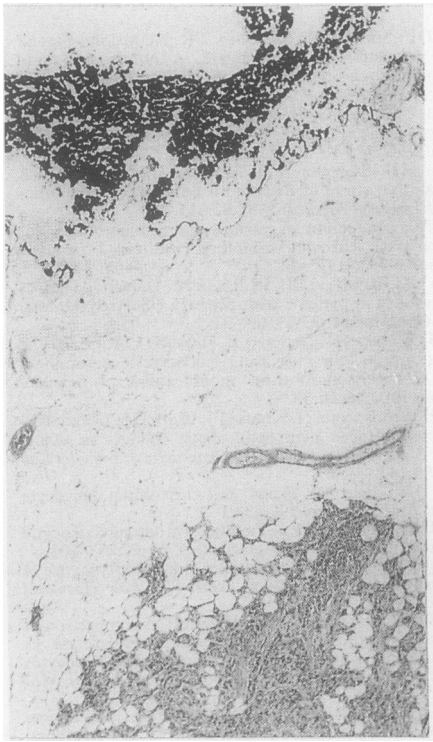
LETTERS TO THE EDITOR

Tipp-ex fluid: convenient marker for surgical resection margins

The accurate recognition of resection margins in surgical material can present problems in routine practice. A need exists for a convenient, cheap, ready mixed, and easily used marker substance, which may be kept for long periods for use when required. Tipp-ex white fluid (Tipp-ex Ltd, Camberley, Surrey), a solution of titanium dioxide and polyacrylate in trichloroethane, is a standard office material used to blank out typing errors. The solution comes in a 30 ml plastic bottle, with a brush applicator on the cap (cost about £0·99 a bottle). The bottle can be kept beside the cut up area and remains usable for many months. Sections taken through a specimen, such as a breast lump, can be kept in the correct orientation on the cutting board and the outer edge marked with Tipp-ex before being placed in the cassette. The fluid requires no drying time and does not spread when applied to blotted tissue, whether the cassette is placed in a dry rack or directly into formalin. Clear and reliable marking is achieved and the thick white line is clearly seen grossly and on the slide. The material appears as a granular black line under the microscope (figure). Although "lifting" of the marker from the surface, probably due to tissue shrinkage, may produce a slight gap between tissue and marker, this does not present any problem in practice as the orientation and contour of the marker are clearly preserved. Toxicity is not a problem and the function of the processing equipment is unaffected.



Invasive adenocarcinoma of the breast. Lumpectomy resection margin marked with Tipp-ex white fluid (granular black line) (Haematoxylin and eosin.)

While not replacing more sophisticated techniques for extensive surface marking, the use of Tipp-ex can satisfy most requirements of the pathologist in routine practice.

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Giant inflammatory polyposis in ulcerative colitis presenting with protein losing enteropathy

Patients with inflammatory bowel disease may show colonic inflammatory polyps which develop from regenerating mucosa surrounded by areas of ulceration.[1] In extreme cases this results in giant inflammatory polyposis (colitis polyposa), which may present with abdominal pain or discomfort,[2 3] rectal bleeding,[2 4] a palpable abdominal mass[3] or intestinal obstruction.[4] We believe that this is the first case of giant inflammatory polyposis to present as a severe protein losing enteropathy.

A 40 year old man presented with diarrhoea and rectal bleeding. Proctosigmoidoscopy showed inflamed, oedematous rectal mucosa and a biopsy specimen active, non-specific colitis. This was initially controlled with sulphasalazine, but after four months symptoms returned and he was given prednisolone 40 mg/day. The dose was gradually reduced, but after six months the colitis worsened, his serum albumin concentration fell from 31 to 11 g/l and he developed gross oedema with restlessness and confusion. Colonoscopy showed a relatively normal rectum with a huge polypoid tumour-like mass bulging into the lumen of the sigmoid colon.

Subtotal colectomy was performed with anastomosis of the rectum to the hepatic flexure. Most of the 56 cm segment of resected colon showed gross polypoid mucosal hyperplasia (figure), with finger-like fronds up to 2 cm high. The proximal 4·3 cm seemed to be relatively normal while the distal 5 cm was inflamed, though not polypoid. The bowel wall and mesentery were not thickened.

Histological examination showed mildly active chronic ulcerative colitis with a mixed mucosal inflammatory infiltrate but no ulceration. Glandular architectural disruption and Paneth cell metaplasia extended to the distal resection margin. Superimposed on this was florid regenerative polyp formation.

Inflammatory polyps have been seen in 12·5–19% of patients with ulcerative colitis, in a smaller proportion of those with Crohn's disease[1 2] and less commonly in diverticular disease, ischaemic colitis,[2] amoebiasis and schistosomiasis. They are usually located in the transverse and descending colon and typically appear as fairly flat mucosal islands up to 1·5 cm in height.[1] Occasionally, in association with ulcerative colitis and Crohn's disease, giant inflammatory polyposis, with polyps more than 1·5 cm high,[4] is seen. In most cases radiological and endoscopic appearances have suggested a villous tumour.[2 3] Previous reports have described either a normal[2] or a moderately reduced serum albumin,[4] but we believe that this is the first case to present with a severe protein losing enteropathy.

Protein losing enteropathy is seen in association with extensive mucosal ulceration, such as severe active inflammatory bowel disease, lymphatic obstruction, such as intestinal lymphangiectasia, and in increased desquamation of intestinal epithelial cells, such as coeliac disease when there is an increased rate of cell turnover, and Ménétrier's disease when the epithelial surface area is greatly increased.[5] Mucosal ulceration was not a feature in our patient and therefore cannot be held responsible for the very low serum albumin concentration. In giant inflammatory polyposis, however, there is obviously an analogy with Ménétrier's disease as there is a very considerable increase in epithelial cell surface area, and the rate of cell turnover may also be increased.

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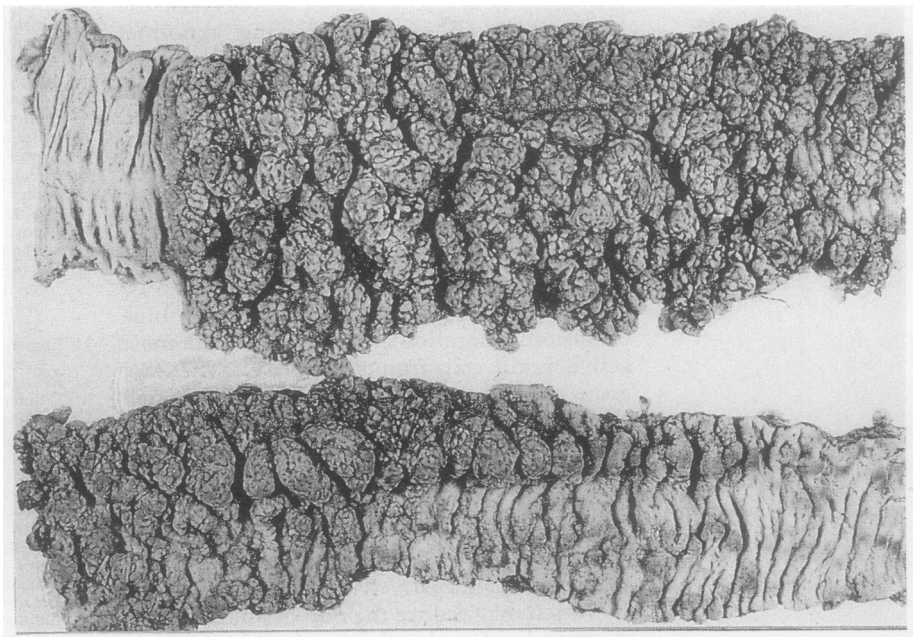

Colon extensively affected by giant inflammatory polyposis which has spared the proximal few cm. The distal quarter is only slightly affected.