Letters to the Editor

superficial erosion to complete necrosis with dense infiltration of the mucosa and submucosa with polymorphonuclear leucocytes. The size of the necrotic areas varied from a few villi to 1 cm in length. The subserosa was oedematous with increased vascularity and slightly increased fibrous tissue. A striking feature of the necrotic and ulcerated areas was the presence of many thrombi in the small vessels of the mucosa and submucosa (figure). These were mainly in veins and venules and varied in age, some undergoing early reorganisation.

These pathological changes are typically those of ischaemic bowel disease, and are similar to those described in three previous cases of paroxysmal nocturnal haemoglobinuria, in which the patient survived resection of thrombosed bowel. The first two patients developed ischaemic necrosis and infarction of the ileum and caecum respectively, and both had extensive venous thrombi of varying ages in the submucosa and subserosa. The third patient had frank gangrene of the submucosa with widespread venous thrombosis. While it cannot be proved that paroxysmal nocturnal haemoglobinuria was the cause of our patient's bowel thromboses, his age, the exclusion of any other demonstrable vascular lesions, and the presence of paroxysmal nocturnal haemoglobinuria make the association highly probable.

Because early reports of suspected mesenteric thrombosis in paroxysmal nocturnal haemoglobinuria emphasised the high mortality associated with surgery, gut thrombosis has been proved during life in only a few patients. The three previous cases and the patient reported here suggest, however, that emergency abdominal surgery may be undertaken as a life saving measure without special preparation.

Unfortunately, bowel thrombosis in paroxysmal nocturnal haemoglobinuria tends to be recurrent. Our patient still experiences pain, despite treatment with warfarin, and a recent barium follow through study showed multiple small bowel strictures, thought to be ischaemic in origin.

LM WILLIAMSON^*
JM JOHNSTONE†
FE PRESTON‡
^Regional Blood Transfusion Centre, Sheffield S5 7JN;
†Department of Pathology, District General Hospital, Grimsby;
‡Department of Haematology, Royal Hallamshire Hospital, Sheffield S10 2JF.

References

Method for preparing large specimens obtained by disarticulation or amputation for histological examination

Limb disarticulations and amputations for orthopaedic and other reasons produce large specimens which are difficult to manipulate and prepare for histopathological examination. The associated problems became apparent to us recently when we were presented with a left arm disarticulation containing an osteogenic sarcoma arising distally in a sagittal humerus. A pathological fracture had previously occurred proximal to the tumour. This fracture (not due to tumour deposition) had been treated by internal fixation and had healed poorly. Obviously, removal of the plate and screws would result in a frail specimen which would be difficult to dissect properly and from which it would be difficult to recover representative informative blocks of tissue for microscopical study. The particular problem was the need to bisect the limb along its long axis.

Initially, the soft tissues down to bone were removed. These, the resection margins, and the skin were sampled for histological examination. The distal portion of the limb was removed through the distal third of the forearm. The remaining specimen was examined by radiography and photographed. The periphery of the tumour was sampled for histological and electron microscopical examination. The specimen was then fixed in 10% buffered formalin for one week. Next the orthopaedic plate and screws were removed, and the specimen was embedded (lying on one side) in RAL wax up to the line of proposed bisection (cocktail sticks were placed on the wax along this line to mark it); embedding was completed by surrounding the exposed surfaces with wax. After preliminary hardening the embedded specimen was placed in a chest freezer for three days. The frozen embedded specimen was bisected along the plane marked by the cocktail sticks with an AEW 250 band saw. Paraffin wax had gained access to the narrow spaces through the screw holes when it

Thrombi in submucosal vessels with oedema and early neutrophil increase: early necrosis present in the mucosa on the right (Masson trichrome)
was molten. Large pieces of wax were easily lifted from the cut surface without defrosting, but remaining adherent small pieces were removed by placing absorbent paper or cotton on the cut surface and applying a warmed domestic smoothing iron. The tumour relations, the fracture site, the features of the elbow joint cavity, and the presence or absence of intramedullary tumour deposits were studied, recorded, and sampled. An illustrative sample was now available for preservation as a museum specimen. Excellent histological specimens were prepared.

We have since applied this technique to several other amputation specimens and have found it useful in the handling of these awkward specimens.

RJ FITZMAURICE
JOHN GRAHAM
JOHN MCLURE
Department of Histopathology, University Hospital School of Medicine, Nell Lane, West Didsbury, Manchester M20 8LR.

Results of study of seminal vesicles obtained from 22 men at necropsy using extent and severity of nuclear pleomorphism as a subjective indication of polyploidy

<table>
<thead>
<tr>
<th>Pleomorphism</th>
<th>No of cases</th>
<th>Age range (years) (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ + +</td>
<td>5</td>
<td>62–89 (75)</td>
</tr>
<tr>
<td>+ +</td>
<td>9</td>
<td>60–78 (66)</td>
</tr>
<tr>
<td>+</td>
<td>2</td>
<td>35–48 (41)</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
<td>20–79 (51)</td>
</tr>
</tbody>
</table>

found no relation with cancer and suggested a hormonal or degenerative effect due to ageing.\textsuperscript{1} In our study two patients aged 78 and 68 also had coincidental prostatic carcinomas, but only the older patient showed polyploidy, which was of mild degree. Arias-Stella and Takano-Moron found no correlation with vascular sclerosis, pigment, prostatic hyperplasia, or atrophy of the testis.\textsuperscript{4} In a review of the 264 prostatic needle biopsy specimens received over the previous 10 years we found that seminal vesicle epithelium was not uncommonly present, being found in 15 specimens (5%).

Seminal vesicle epithelium can be distinguished morphologically from prostatic epithelium by the presence of cytoplasmic and luminal lipofuscin and occasional round eosinophilic stromal nodules. Mitoses are not a feature. Lipofuscin is not, however, always present. Both mucin staining and stains for basement membranes are, in our experience, unhelpful in distinguishing between these two types of epithelium. The immunoperoxidase stain for prostatic specific antigen appears to be the single most specific method for positively identifying seminal vesicle epithelium in prostatic tissue in the absence of distinctive morphological features (figure).

JD COYNE
WF KEALY
P ANNIS
Department of Pathology, Cork Regional Hospital, Cork, Ireland.

References


Immunoperoxidase stain for prostatic specific antigen showing positive staining for prostatic adenocarcinoma and unstained seminal vesicle epithelium at margin. Prostatic specific antigen.

Seminal vesicle epithelium in prostatic needle biopsy specimens

Epithelium from the seminal vesicles may be included in prostatic needle biopsy specimens. These epithelial cells sometimes display large bizarre, hyperchromatic pleomorphic nuclei which closely resemble malignant cells. Misinterpretation may result in an erroneous diagnosis of malignancy. The presence of these benign cells, the nuclei of which are almost certainly displaying polyploidy, has been described in published papers\textsuperscript{1} and in specialist textbooks.\textsuperscript{2,3} We wish to emphasise the frequency of this occurrence, indicate how often this potential problem may be encountered, and define the feature, which allow it to be distinguished from prostatic carcinoma.

We examined seminal vesicles taken at necropsy from 22 men (table). Polyploidy occurred commonly in older patients, and both the extent and severity increased with age. None of the younger patients showed atypical nuclei, but not all of the older patients displayed polyploidy. Why this change occurs is unknown. Kuo and Gomez
Method for preparing large specimens obtained by disarticulation or amputation for histological examination.
R J Fitzmaurice, J Graham and J McLure

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