[4] Shackelford, P G, *et al*, *American Journal of Diseases of Children*, 1977, **131**, 391.
[5] Visintine, A M, *et al*, *American Journal of Diseases of Children*, 1977, **131**, 393.

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Injury to the appendix after blunt abdominal trauma

Traumatic rupture of the appendix as an isolated visceral injury is exceptionally rare and appears to be unrecorded in Great Britain. This paper reports such a case, speculates on the mechanism of injury, and adds an historical note.

Case report

A healthy 36-year-old lorry driver sustained a low velocity crush injury as he was trapped between a stationary and a slow moving vehicle. The patient remained conscious throughout the incident and could subsequently describe a combination of compression and rotation forces applied to the lower thorax and upper abdomen. Examination in the casualty department showed tenderness of the abdomen and left loin. Bowel sounds were present and there were no signs of peritoneal irritation. Microscopic haematuria was detected on reagent strip testing. The only abnormalities seen on *x*-ray examination were fractures of the left transverse processes of the second, third, and fourth lumbar vertebrae. In the absence of convincing evidence of visceral injury he was initially admitted for observation but when, after four hours, he complained of right shoulder tip pain he was submitted to laparotomy.

The abdomen was opened through a right paramedian incision and a little free blood was immediately evident lying in the right paracolic gutter. The source of the bleeding was identified as a long, torn mesoappendix—the appendix itself having been completely severed at the junction of its proximal third and distal two-thirds. The severed portion was located near the hepatic flexure. No other visceral injury was found, although there was considerable retroperitoneal haematoma in the left perinephric region. The proximal portion of the appendix was excised and the stump invaginated to complete the appendicectomy. The patient made an uncomplicated recovery and was discharged on the sixth day.

Histological examination of the appendix showed a small faecolith in the severed portion and mild but definite inflammatory changes confined to the mucosa of both portions. Despite the patient's freedom from symptoms before the accident, the features were those of an early (subclinical) acute appendicitis.

Comment

Avulsion or rupture of the appendix is exceedingly rare and case reports appear to be confined to the American journals. In 1975 Geer *et al*[1] described one case but could find only another two reports.[2 3] The precise mechanism of these injuries is speculative, but in two[1 2] it was apparently related to deceleration forces while the third patient[3] presented with signs of acute appendicitis after avulsion of the tip of the appendix resulting from the action of a pneumatic drill resting on the right iliac fossa. In my patient the early inflammatory changes in the appendix probably rendered it less able to withstand shearing and compression forces which left the other more supple viscera intact.

Reports agree that the diagnosis will usually be made only at laparotomy and that the treatment is appendicectomy. Houdini, the legendary escapologist, would invite blows to his abdomen to demonstrate his remarkable strength and physique. On one occasion in 1926 he was unprepared for a punch thrown by an amateur boxer and evidently experienced considerable pain. Although the initial pain rapidly subsided, Houdini was kept awake that night with what he took to be a torn muscle. Fever supervened and after a further three days his surgeons found a gangrenous appendix and advanced peritonitis, from which he succumbed.

Historical diagnosis is a fashionable exercise and I suggest that Houdini's biographers[4] were the first to document an isolated injury to the appendix after blunt abdominal trauma.

I thank Mr D C Britton for permission to report this case.

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Squamous cell carcinoma of bronchus presenting with Henoch-Schönlein purpura

The antigen precipitating an episode of Henoch-Schönlein purpura frequently remains unidentified.[1] We have seen two patients with squamous cell carcinoma of the bronchus in whom a tumour antigen may have initiated an attack.

Case reports

Case 1—A 63-year-old man developed polyarthritis and a purpuric rash in November 1975. He had chronic bronchitis but had had no recent chest infections. His urine contained red cells, casts, and up to 7 g of protein a day. His platelet count and serum complement concentrations were normal. A chest *x*-ray film showed only emphysematous change. No organism was cultured from throat swabs or sputum. The antistreptolysin O (ASO) titre was normal. Serum IgA concentration was 2 g/l (normal range 1·4-4 g/l). The rash and arthritis resolved over three weeks but heavy proteinuria and microscopic haematuria persisted. A renal biopsy specimen obtained in May 1976 showed mesangial proliferation with IgA and IgG deposits. By July the proteinuria had resolved but haematuria persisted and the creatinine clearance had fallen to 40 ml/min, from 60 ml/min in March. A chest *x*-ray film now showed a thick-walled cavity at the apex of the right lower lobe. Sputum cytology was suggestive of squamous cell carcinoma. Thoracotomy was not undertaken because of his chronic airways disease. By the time of his death from carcinomatosis in July 1977 the haematuria had resolved but his creatinine clearance had fallen to 30 ml/min. He had had no further episodes of Henoch-Schönlein purpura. Postmortem examination confirmed the diagnosis of squamous cell carcinoma of the bronchus.

Case 2—A 73-year-old man presented in August 1973 with oedema of the hands and feet, polyarthralgia, and purpura. He had abdominal colic and melaena stools. He was a heavy smoker with a history of chronic bronchitis and recent weight loss and haemoptysis. Apart from antibiotics for a "chill" nine weeks previously he had no recent history of infection or drug ingestion. His urine contained numerous red cells and granular casts, and he developed up to 3 g of proteinuria per day. Throat swab, sputum, and blood cultures grew no organism. The ASO titre was normal and the results of virological studies were negative. The platelet count and serum complement concentrations were normal. The serum IgA was 4·1 g/l. The chest *x*-ray film showed persistent consolidation in the left upper lobe, and the sputum contained malignant cells. A skin biopsy specimen showed an acute allergic necrotising vasculitis. In a renal biopsy specimen there was focal proliferative glomerulonephritis with IgA deposition and immune complexes in the mesangium. The purpura and arthralgia resolved but proteinuria and haematuria persisted. A left upper lobectomy was performed in November 1973 and a squamous cell carcinoma of the bronchus removed. The proteinuria and haematuria rapidly resolved after the operation and the creatinine clearance rose from 31 ml/min to 60 ml/min. The patient died from a local recurrence of his tumour in August 1975. He had had no further episodes of Henoch-Schönlein purpura or nephritis.