Solitary cyst of the liver presenting as an abdominal emergency

S. C. SOOD
F.R.C.S.

A. WATSON*
F.R.C.S.

Department of Surgery, Maelor General Hospital, Wrexham

Summary

A case of torsion of a solitary non-parasitic cyst of the liver presenting as an acute abdominal emergency is described. Reference is made to the pathogenesis of such cysts, which occur infrequently and only rarely present with complications. A review of previous reports of complications in such cysts is presented.

Introduction

Non-parasitic cysts of the liver are relatively uncommon, and are usually discovered as incidental findings at laparotomy. Complications arising in such cysts are rare, but occasional reports of these have occurred in the literature. Rupture into the peritoneal cavity (Horton, 1954), intracystic haemorrhage (Ackman and Rhea, 1931) and strangulation (Orr and Thurston, 1927; Grime et al., 1959) have been described presenting as an acute abdominal emergency. We report a case of a solitary non-parasitic cyst arising from the liver having undergone sudden spontaneous torsion on a pedicle and presenting as an acute abdominal emergency.

Case report

An 18-year-old unmarried girl was admitted to the Surgical Unit from the Casualty Department having collapsed with severe abdominal pain. She was watching television when she experienced sudden agonizing pain in the abdomen, and was able to obtain some relief by crouching or lying on her left side. Earlier that day, she had felt miserable and experienced a tingling discomfort in the abdomen from time to time. Shortly before the onset of pain she had a bowel action and felt nauseated, but did not vomit. The patient had previously noted some abdominal fullness, but attributed this to a possible pregnancy. On admission she was pale and restless. Her pulse rate was 110/min, temperature 36°C and blood pressure 120/80 mm Hg. There was a noticeable swelling in the lower abdomen in an otherwise thin patient. The swelling was mobile, tender, dull to percussion and appeared to arise from the pelvis. Pelvic examination revealed a large cystic mass anterior to a normal sized uterus. Initial investigations revealed a haemoglobin of 12·1 g/100 ml and a white cell count of 17,400/cc. The most likely diagnosis was thought to be acute torsion of an ovarian cyst, and she was prepared for laparotomy. Laparotomy was performed through a right paramedian incision. An enormous and apparently multi-loculated cyst was revealed on opening the abdomen, and the whole cyst was congested and dusky with evidence of haemorrhage within it. The appearances were interpreted as being indicative of torsion, but no pedicle was found in the pelvic cavity. On further examination, the pedicle was found to be arising from the upper abdomen, and was traced to an accessory process of liver tissue, arising just to the left of the ligamentum teres. Torsion about this pedicle had occurred, and after reducing the

* Present address: University Hospital of Wales, Cardiff.
tension, and ensuring that the cyst had no communication with the biliary system, the accessory tongue of liver tissue bearing the cyst was excised and its area of origin oversewn with catgut sutures.

The patient made an uneventful recovery and was discharged home on the thirteenth post-operative day.

Discussion

The pathogenesis of solitary non-parasitic liver cysts has been considered in several case reports including those of Moschowitz (1906), Wakeley and MacMyn (1931), Maingot (1940), Horton (1954) and more recently by Vause, Greig and Stinson (1960) and Butler (1969). It has been observed that such cysts may originate from a variety of structures within the liver parenchyma. The tissue of origin as determined by histological examination has been largely linked with mucous glands and lymphatics in the bile ducts (Davis, 1937), ligamentum teres (Wakeley and MacMyn, 1931) and as simple retention cysts (Warren and Polk, 1958).

The aetiology of liver cysts excepting those of traumatic or parasitic origin remains obscure. Stock (1952) was unable to differentiate the aetiology of single from multiple cysts, but he believed that both could conceivably arise from dilated bile ducts.

Numerous references confirm the view that uncomplicated non-parasitic cysts of the liver generally do not produce significant symptoms. When such cysts do however develop complications, an accurate pre-operative diagnosis is seldom made. In the case described, the triad of acute abdominal pain, a tender lower abdominal swelling and early signs of shock suggested the diagnosis of a twisted ovarian cyst, making early laparotomy mandatory. We have only been able to trace one previous case where such a liver cyst had undergone torsion, and this case was presented by Stevens in 1925 to the Royal Society of Medicine.

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