Umbilical haemorrhage—an unusual complication of cirrhosis

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Summary

A 59-year-old woman known to have micronodular cirrhosis presented with haemorrhage from the umbilicus. She eventually required exomphalectomy at which a huge patent umbilical vein was found and ligated. Selective coeliac and superior mesenteric angiography with late phase films confirmed a large umbilical vein filling from the left branch of the portal vein. So far as the author knows, umbilical haemorrhage as a complication of cirrhosis has never previously been reported.

Introduction

Haemorrhage from oesophago-gastric varices is a well known complication of chronic liver disease with portal hypertension. Other more unusual sources of variceal bleeding have included vaginal-vault varices (Kreek *et al.*, 1967), mesenteric varices (Rothschild, Gelernt and Sloan, 1968), colonic varices (Leevy *et al.*, 1957) and varices occurring in inflammatory adhesions (Bloor and Orr, 1961). However, umbilical haemorrhage secondary to cirrhosis does not appear to have been previously reported.

Case report

A 59-year-old woman woke at 3 a.m. and went to the toilet. While there, she coughed and a torrent of venous blood poured from her umbilicus. This bleeding persisted until her admission to hospital at 10 a.m. She had had insulin-dependent diabetes mellitus since the age of 15 years but was taking no other drugs. She gave a long history of alcohol abuse and had had 2 admissions during the previous year with jaundice and ascites when investigations, including liver biopsy, confirmed a micronodular cirrhosis. On examination, she was pale but not shocked (BP 110/70 mmHg). She had leuconychia and finger clubbing but no other stigmata of chronic liver disease. She was mildly jaundiced and had ascites with hepatosplenomegaly. A large vein was seen within the umbilicus which bled readily on coughing or palpation of the abdomen. There was no caput medusae or peri-umbilical venous hum. Her haemoglobin which had been normal during her

previous admission was 7.7 g/dl. Prothrombin time ratio was normal and faecal occult blood testing negative. Liver function tests were deranged, bilirubin 59 μ mol/l (normal 2-14), alkaline phosphatase 102 i.u./l (normal 20-85) of liver origin, and plasma albumin 25 g/dl (normal 27-36). Aspartate and alanine aminotransferase activities were normal. Serum alpha fetoprotein, smooth muscle and antimitochondrial antibodies and hepatitis B surface antigen were not detected. Isotope liver scan showed hepatosplenomegaly and changes compatible with cirrhosis, and a barium swallow demonstrated extensive oesophageal and gastric fundal varices. Thermography of the abdomen revealed marked increase in heat from the umbilicus but with no radiating collateral veins.

She was given a blood transfusion and the umbilicus was packed and sutured. However, 10 days later on removing the sutures, she again bled profusely (Fig. 1). Emergency exomphalectomy was carried out at which a huge umbilical vein was found. Only 3 small venous channels were seen radiating from this umbilical vein which was ligated without entering the peritoneum. Subsequent selective coeliac and superior mesenteric angiography confirmed marked splenomegaly and late phase films revealed patent portal and splenic veins with flow towards the liver. Some contrast was diverted into a large umbilical vein which filled from the left branch of the portal vein and drained into a complex of dilated veins deep and to the right of the umbilicus.

Since operation, she has remained well and has had no further haemorrhage. Throughout the course of this illness, she had required 21 units of blood.

Comments

In chronic liver disease, portal pressure rises as the portal circulation within the liver becomes obstructed. A collateral circulation then develops to divert blood away from the liver parenchyma into systemic veins. One such portal-systemic bypass involves communication of the left branch of the portal vein with the iliac veins and the inferior vena cava via a congenitally patent umbilical vein within

FIG. 1. Umbilical haemorrhage following removal of sutures.

the falciform ligament. A prominent caput medusae and a loud venous hum at the umbilicus may then be found in addition to the typical stigmata of chronic liver disease, producing the Cruveilhier-Baumgarten syndrome (Ohkubo *et al.*, 1978). The present patient, however, had no caput medusae and no audible peri-umbilical venous hum. She had a large umbilical vein which drained portal blood towards the umbilicus and thence to a complex of veins deep within the abdomen. In the absence of trauma to the umbilicus, the author presumes that the increase in intra-abdominal pressure caused by coughing was sufficient to rupture this vein. In spite of exomphalectomy, there remains the risk of serious haemorrhage from other portal-systemic collaterals such as the known oesophago-gastric varices.

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