Case Report

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Fatal Disruption of a Splenorenal Shunt after Multiple Pregnancies

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Key Words

Maternal death
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Abstract

A 39-year-old woman underwent a distal splenorenal shunt operation for bleeding esophageal varices due to liver cirrhosis. Following the operation she had 7 pregnancies at almost yearly intervals. At the term of the last pregnancy a disruption of the anastomotic site caused a fatal hemorrhage. The outcome of postshunt pregnancies as reviewed in the literature is usually favorable, but numerous pregnancies in these circumstances may carry a considerable risk.

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Pregnancy in patients with portal hypertension carries a definite risk of maternal and neonatal morbidity and mortality. Yet, recent reports indicate a benign course in the majority of cases [1–4]. Fertility following portasystemic shunt operation has been reported in several studies with relatively low rates of morbidity [2, 3]. The following case report describes a unique fatal complication in a multiparous patient following splenorenal shunt.

Case Report

A 39-year-old woman was admitted to the hospital in the 38th week of pregnancy with an initial complaint of sudden abdominal pain. At the age of 5 she had suffered from mild jaundice which was diagnosed as infectious hepatitis. In 1972, after 3 years of marriage she was given a diagnosis of primary sterility and was treated with clomiphene. During her first pregnancy in 1973 she suffered from toxemia but delivered a healthy child. A routine examination revealed hepatosplenomegaly, leukopenia and thrombocytopenia and a diagnosis of cirrhosis of the liver was made. In 1975 she delivered a second child after a normal pregnancy. A liver biopsy performed in 1977 revealed inactive macronodular cirrhosis consistent with posthepatitic cirrhosis. During the subsequent year she had three episodes of massive bleeding from esophageal varices. In 1978 she underwent a distal splenorenal shunt. Ten days after the operation she had another massive bleeding episode which was treated conservatively. Subsequent splenoportography and inferior venocavography demonstrated a patent shunt. She had further full

Fig. 1. Tear at the anastomotic site of the distal splenorenal shunt, extending to the inferior vena cava.

term pregnancies in 1981, 1982, 1983, 1984, 1985 and 1987. Although the patient was cautioned against multiple pregnancies, she declined the medical advice on religious grounds. The present admission in 1988 was towards the end of another uneventful pregnancy.

Soon after admission signs of fetal distress appeared and she was taken for an emergency cesarean section. At the induction of anesthesia there was a complete cardiovascular collapse. A dead fetus was delivered with no signs of significant bleeding from the uterus. Extending the incision into the abdomen, a huge retroperitoneal

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hematoma became apparent. This was due to a disruption at the anastomotic site of the splenic vein to the renal vein, with a tear extending along the renal vein into the inferior vena cava (fig. 1). The bleeding was controlled locally but continued from numerous engorged veins in the hilus of the spleen and the mesentery. The spleen was removed but all attempts at hemostasis failed. A disseminated intravascular coagulopathy developed which could not be corrected and the patient died from uncontrollable bleeding.

Discussion

Conception does occur in patients with varying degrees of hepatic decompensation [1–4]. In two recent reviews on cirrhosis and pregnancy, data were presented on 60 pregnant women with cirrhosis who had 69 deliveries and 30 pregnancies in 25 women with cirrhosis who underwent portasystemic shunt operations [2, 3]. The outcome of the 30 postshunt pregnancies was relatively favorable with 1 severe gastrointestinal hemorrhage, 2 cases of hepatic deterioration, 1 maternal death and 5 neonatal deaths. Successful shunt operations during pregnancy have been reported in 11 cases [2, 3, 5–10]. In the literature we found 5 women who had 2 pregnancies following shunt surgery and none with more [11–15]. The patient presently reported had 7 full-term pregnancies at almost yearly intervals starting from 3 years after the operation, and succumbed in the last. The singularity of the case lies also in the fact that the fatal bleeding was not related to esophageal varices but to disruption of the splenorenal shunt. Two mechanisms were probably involved in the pathogenesis: (1) Expansion in the total blood volume which after the second trimester of pregnancy may increase by 45% [16, 17]; (2) elevation of intra-abdominal pressure with compression of natural portasystemic collaterals by the gravid uterus [2,

8, 18]. It is also possible that the repeated strain of 7 pregnancies led to gradual weakening of the venous wall at the anastomotic site until it finally ruptured.

In view of the previous experience quoted there is no reason to discourage pregnancy following portasystemic shunt. Yet, this extreme case indicates that numerous pregnancies in these circumstances may carry a considerable risk.

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