Rupture Splenic Artery Aneurysm In Pregnancy
S Gourgiotis, P Alfaras

Abstract
True aneurysm of the splenic artery is rare. One case of ruptured true splenic artery aneurysm in pregnancy is presented. We discuss the case of a 29 years old pregnant woman who was admitted in a state of shock in the Accidents & Emergencies in our hospital. She had haemoperitoneum and was subjected to exploratory laparotomy. Aneurysmectomy was performed in addition to splenectomy. The postoperative course was uneventful but the fetus was dead.

INTRODUCTION
Splenic artery aneurysms (SAA) are rare clinical entities that carry the risk of rupture and fatal haemorrhage. Ruptured SAA especially during pregnancy is an event with fateful consequences for mother or fetus or both.
Atherosclerosis and congenital defects of the arterial wall has been described as the major causes of SAA. Preliminary weakness of the arterial wall with concomitant increase in blood pressure is considered to promote aneurysm formation. Liver diseases with splenomegaly, repeated pregnancies, systemic hypertension and old age are certain clinical settings with a high incidence of SAA. They are more frequent in women than men (4: 1) and more frequent in pregnancy specifically at the third quarter.
The patients usually present without symptoms or with pain in the epigastrium. There is an increased risk of rupture if the aneurysm is more than two centimetres in diameter. Initially the bleeding remains confined in the lesser sac, followed 6-96 hours later by free intraperitoneal haemorrhage and collapse. The initial phase where haemorrhage remains confined to the lesser sac may provide vital time for diagnosis and preparation for intervention. However in pregnancy the bleeding remains confined rupture to the peritoneal cavity and the development of the symptoms is rapid. The treatment of ruptured SAA is the aneurysmectomy in addition or not to splenectomy.

CASE REPORT
A 29-years-old female, in the 34th week of pregnancy, presented with pain in the epigastrium and left hypochondrium in the Accidents & Emergencies.

DISCUSSION
Splenic artery aneurysms (SAA) are the most common type of aneurysms found in the splanchnic arterial bed and are second in frequency only to aortic and iliac artery aneurysms among intra-abdominal aneurysms. More than 400 cases of SAA have been reported. The literature reports a 25% mortality rate for ruptured SAA. The mortality rate among pregnant women is disproportionately high at 75% with a fetus mortality rate of 95%. Twelve cases have been reported with survival of mother and fetus. 65% of slenic aneurysms are presented in women and 50% of them rupture during pregnancy. 12% of SAA during pregnancy rupture at the two first quarters, 69% at the third quarter, 13% at
childbirth and 6% at puerperium. In 25% of cases the phenomenon of “double rupture” is reported; initially the bleeding remains confined in the lesser sac, followed 6-96 hours later by free intraperitoneal haemorrhage and collapse.

The aetiology of true SAA is obscure. Atherosclerosis and congenital defects of the arterial wall has been described as the major causes of SAA whereas others claim that atherosclerosis is a secondary event in SAA. Increased blood pressure is considered to promote aneurysm formation. Liver diseases with splenomegaly, repeated pregnancies, systemic hypertension and old age are certain clinical settings with a high incidence of SAA. Acute and chronic pancreatitis has been described as the major causes of pseudoaneurysms. Pseudoaneurysm is often presented in a pancreatic pseudocyst. During pregnancy the uterus presses the aorta and the iliac arteries and the flow of blood in selenic artery is increased. Because the diameter of uterus is bigger at the third quarter of pregnancy the most cases of ruptured splenic artery aneurysm are presented during this period. Another factor of increase incidence of ruptured SAA during pregnancy is the hormone relaxine which is responsible for the weakness of artery’s wall.

Except of the history and the patient’s examination the Doppler ultrasound, the computerized tomography and the arteriography can help in diagnosis. Management of ruptured SAA requires awareness and aggressive surgical approach. Aneurysmectomy with splenectomy or left splenopancreatectomy, ligation of the proximal and distal splenic artery and aneurysmectomy for splenectomy or left splenopancreatectomy, ligation of the proximal and distal splenic artery and aneurysmectomy for splenic artery aneurysms: experience with 23 cases. Am J Surg 1995;169:580-584.

The CORRESPONDENCE TO

Stavros Gourgiotis MD, Consultant in General Surgery, Clinical Attachment in Division of General Surgery and Oncology, Royal Liverpool University Hospital, Liverpool, U.K. Address: 21 Millersdale Road, Mossley Hill, L18 5HG, Liverpool, U.K. Telephone number (home): +44(0) 151 724 3272 Telephone number (work): +44(0) 151 706 4175 Fax: +44(0) 151 706 5798 E-Mail: drsgourgiotis@tiscali.co.uk & s.gourgiotis@liv.ac.uk

References

Author Information

Stavros Gourgiotis
1st Surgical Department, "Evangelismos" General Hospital

Panagiotis Alfaras
1st Surgical Department, "Evangelismos" General Hospital