INTRAPERITONEAL HAEMORRHAGE DUE TO SPONTANEOUS RUPTURE OF A VEIN

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Massive intra-peritoneal bleeding due to rupture of abdominal arteries, usually at the site of a small aneurysm is well recognized, several series having been described in recent years, Brewer and Marcus (1948), Gillam (1948). In the following case severe haemorrhage occurred from the spontaneous rupture of a vein in the great omentum secondary to thrombosis in that vein.

Case Report. A man aged 61, had 'skin trouble' diagnosed as urticaria. While sitting on a bench at the Skin Hospital he noticed a swimming feeling in the head followed by vomiting and a sense of retro-sternal constriction with pain going up into the neck. On admission to this hospital two hours later he was obviously a very sick man, disorientated, pale and almost pulseless; blood pressure 60 systolic, pulse 120 per minute and regular, temperature 97°; heart, apex beat in axilla; heart sounds normal. No evidence of movement of the mediastinum. Abdomen—slight upper abdominal tenderness, bowel sounds present. Urine—acid, albumin—a trace, sugar nil. A diagnosis of coronary thrombosis was made and the patient was admitted to a Medical Ward, morphia gr. $\frac{1}{4}$ being given. An electrocardiogram taken shortly after was normal. Two hours later the general condition had improved, and the blood pressure risen to 110/70. The man lay with both thighs flexed and began to complain of severe abdominal pain. In spite of the morphia there was marked abdominal rigidity and peritonism on palpation. On auscultation there were very few bowel sounds. P.R. normal.

It was considered that the likely diagnosis was perforated gastric or duodenal ulcer, and that laparotomy was indicated.

Operation. On opening the abdomen through a right paramedian incision the peritoneum was found to be full of blood. This was rapidly removed and a search made for the bleeding point. None could be found but there was a large haematoma within the great omentum. No large artery ran anywhere near this, but the clot was so obviously in the thickness of the omentum that it was thought likely that an aneurysm on a small

artery was the source of the blood. The affected area was excised completely. On palpating the spleen a small swelling on the splenic artery could not be excluded as the bleeding point, and splenectomy with removal of this swelling was performed. It proved to be fatty tissue, there being no abnormality in either the spleen or splenic artery. There was no evidence of hepatic cirrhosis or of portal hypertension. The peritoneum was carefully cleaned and the abdomen closed without drainage. Three pints of blood were administered. Following operation the patient made an uninterrupted recovery and was discharged on the thirteenth day. His final blood pressure was 140/90, and there was no clinical evidence of general arterio-sclerosis. Pathological report—1. Omentum—organising haematoma associated with thrombosis of a large vein. Spleen—normal.

Comment. From the pathological report and the operative findings it is suggested that the train of events in this patient was as follows:—A thrombosis occurred in the omental vein due possibly to arterio-sclerosis and a small rupture of the vein was produced behind this blockage. Spontaneous bleeding from large veins over subperitoneal uterine fibroids has been reported—Ranshoff and Dreyfoos (1921) collected twenty-one cases, and Ameline (1945), and Woodruff (1948) each had one. Veraeghe and Gautier (1949) described a gross haemo-peritoneum arising from the rupture of the intrapelvic veins of varicocele. In most cases of haemoperitoneum arising from major abdominal vessels the bleeding is from an artery. Brewer and Marcus (1948) in a review of the subject discuss twenty-nine cases collected from the literature. The arteries involved were:—

- Coeliac axis—1.
- Superior mesenteric artery—4.
- Gastro-duodenal—1.
- Gastric and gastro-epiploic arteries—8.
- Middle colic—3.
- Splenic artery—1.
- Inferior pancreatico-duodenal—1.

No definite bleeding point—10.

Rosenthal (1931) investigating abnormalities of the biliary apparatus found references in the literature to sixty-nine aneurysms in the hepatic artery and five in the cystic artery. Gillard (1948) reported two cases of spontaneous rupture of the splenic artery and mentions two similar ones—Smith (1911) and McCleod and Maurice (1940). Woodruff (1948) describes severe bleeding from rupture of an aneurysm of an artery on the posterior surface of the great omentum.

Aetiology. Arterio-sclerotic changes with or without hypertension is the commonest cause of these haemorrhages, and because the vessel is unable to contract at the point of rupture this latter is easily found. Of twenty-eight cases in the series collected by Brewer and Marcus fourteen showed clear evidence of arterio-sclerosis. In younger patients, and in those in whom syphilis can be excluded congenital weakness of the vessel wall has been suggested similar to that occurring in aneurysms of the Circle of Willis. Nevin and Williams (1937) had two cases—one due to rupture of a 'congenital' aneurysm of the splenic artery with associated rupture of one of four similar aneurysms in the cerebral arteries; the second patient, who died of massive intra-peritoneal bleeding with no definite aneurysm, had an intact congenital aneurysm of the cerebral vessels. Gillam (1948) points out that the splenic artery is particularly liable to aneurysm formation but that spontaneous rupture may occur without an aneurysm forming, due, he suggested, to inherent weakness in the vessel wall in the absence of syphilis or arterio-sclerosis. Aird (1949) emphasises the frequency with which rupture of a

splenic arterial aneurysm occurs in the later months of pregnancy. Reiman and Cowley (1946) had a case of syphilitic aneurysm of the coeliac artery which ruptured while Willis (1935) reported a mycotic abdominal aneurysm in acute bacterial endocarditis.

Summary

A case of abdominal apoplexy due, it is thought, to rupture of an omental vein is reported. A brief search of the literature has failed to trace a similar occurrence. Practically every artery in the abdomen has been found at one time or another to be the source of massive bleeding. In exploring the abdomen in such a case a thorough search of all vessels is necessary in the absence of one of the commoner causes, for example—ruptured ectopic gestation.

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