SUBACUTE BACTERIAL ENDOCARDITIS PRESENTING WITH HAEMOPERITONEUM FROM RUPTURED MYCOTIC ANEURYSM

V. K. G. PILLAY, M.B., CH.B. (NATAL), F.C.P.(S.A.) AND O. M. JOLOBE, M.B., CH.B.(NATAL), *Department of Medicine, University of Natal and King Edward VIII Hospital, Durban*

Vascular catastrophes such as embolism and mycotic aneurysm are still notable sequelae of subacute bacterial endocarditis (SBE), despite control of infection. Indeed their incidence may well be higher now because antibiotics salvage more and more patients from the immediate consequences of infection.[1, 2]

Stengel and Wolferth[3] noted mycotic aneurysms of the inferior mesenteric artery in 38 of 187 cases of SBE and Middleton and Burke[4] reported an unruptured mycotic aneurysm of the same artery in a young girl. Armand-Delille *et al.*[5] described rupture of an abdominal aneurysm in a 10-year-old child who died of the catastrophe. Cates and Christie[6] reported 2 cases of haemorrhage from rupture of mesenteric mycotic aneurysm. Clement and Montgomery[7] first described massive haemoperitoneum from apparent rupture of a mycotic aneurysm of the superior mesenteric artery owing to SBE; the diagnosis was not made clinically and even at laparotomy the true source of haemorrhage was not evident. In this paper we describe a case of SBE presenting with haemoperitoneum from ruptured mycotic aneurysm; the diagnosis was suspected clinically and confirmed at laparotomy.

CASE HISTORY

An African male, aged 49 years, was admitted to hospital with a history that 4 days before admission he had experienced a sudden attack of epigastric pain while walking and that it was followed by abdominal distension and weakness. On further enquiry he admitted to dyspnoea on exertion, paroxysmal nocturnal dyspnoea and orthopnoea of 4 days' duration. He also had a non-productive cough and swelling of the legs. He vomited on the day of admission but his bowels were regular. There was no previous history of rheumatic fever.

On examination the patient looked ill and toxic. There was marked pallor of the mucosae, clubbing of the fingers and sternal tenderness. The pulse was 96 per min. and collapsing in character, and the BP was 160/70 mm.Hg. The heart was clinically enlarged. A systolic thrill was felt in the root of the neck, and there was a harsh grade-II ejection systolic murmur at the aortic area, conducted upwards and to the mitral area. An early diastolic murmur was heard at the aortic area and conducted to the left sternal border. The liver was palpable and shifting dullness was present in the abdomen. Exudates and haemorrhages with pale centres were seen in the fundi.

Investigations

Hb was 3·2 G/100 ml., WBC 28,000/cu.mm., ESR 83 mm./hr., MCHC 27%, and blood urea 140 mg./100 ml. His urine contained albumin, scanty finely granular casts, 15 leukocytes per high power field. PI was 97%. The benzidine test for occult blood was positive.

On the clinical and laboratory findings, a diagnosis of aortic valve disease with SBE was made. Anaemia of 3·2 G/100 ml. was thought to be unusually severe for such a diagnosis, however, and anaemia as the primary pathology was then considered. Examination of the bone marrow showed active normoblastic erythropoiesis consistent with recent haemorrhage or haemolysis. No white cell abnormalities were seen. Aspiration of blood from the peritoneal cavity raised the possibility of ruptured mycotic aneurysm and indeed could account for the anaemia and peripheral and bone-marrow picture of blood loss. The presence of occult blood in the stool suggested that the lesion might be in one of the vessels supplying the bowel.

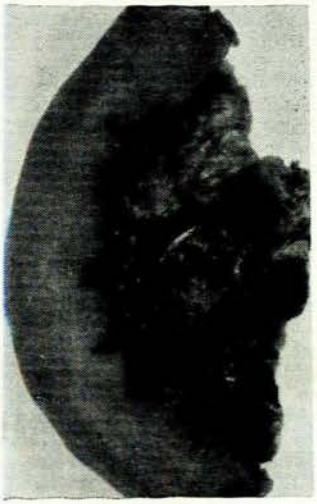

Fig. 1. Mycotic aneurysm in the mesentery close to the small bowel.

The patient was therefore treated with massive doses of penicillin and blood transfusion, despite which his condition deteriorated. Falling BP and progressive distension of the abdomen indicated further haemorrhage into the peritoneal cavity. Sudden collapse of the patient necessitated rapid transfusion of blood. The patient responded somewhat to resuscitation but surgical help was sought since there was persistent loss of blood. At laparotomy 6 pints of blood were removed from the peritoneal cavity. The source of bleeding was found to be a mycotic aneurysm, situated close to the border of the small bowel in the mesentery, and it was resected together with a portion of bowel and mesentery (Fig. 1), an end-to-end anastomosis being done.

Postoperatively, the patient developed oliguria and the blood urea rose progressively to 385 mg. per 100 ml. It subsequently fell to 136 mg./100 ml. while the urinary output increased gradually from 180 ml. to 1,500 ml./24 hours over a period of a week. Dehiscence of the abdominal wound occurred on the

9th postoperative day. This was repaired under general anaesthesia. The day after operation the patient vomited and aspirated vomitus into the lungs following which there was cardiac arrest and respiratory failure. Despite resuscitative measures the patient died 12 hours later.

Necropsy Findings

The body was that of a slightly built man in a poor nutritional state. Mild oedema of the sacrum and ankles was present. There was gross clubbing of the fingers and toes. There were chronic adhesions of the right pleura, the lungs were emphysematous mainly at the apices and anterior borders, and there was some oedema of the lower lobes. Petechial haemorrhages were present on the parietal pericardium. There was left ventricular hypertrophy, the heart weighing 440 G. The aortic valve showed evidence of stenosis and incompetence owing to rheumatic endocarditis, the cusps being covered with friable vegetations, a culture from which yielded haemolytic streptococcus. Mild atheroma mainly of the abdominal aorta was evident. The liver was congested and weighed 1,480 G. The kidneys had a typical flea-bitten appearance, and histology showed embolic glomerulonephritis. There were recent infarcts in the upper pole of the right kidney and in the spleen.

Discussion

SBE is not uncommon at King Edward VIII Hospital, occurring in about 1% of admissions to medical beds. The majority of cases are diagnosed on clinical grounds since positive cultures are obtained in less than 30% of cases. Patients usually seek medical advice late so that complications are frequently encountered and the prognosis is therefore poor. The present case is of interest because the patient was symptom-free until the catastrophe occurred and because he presented with anaemia and haemoperitoneum. It is probable that SBE was present for a considerable period of time as is evident from the pathological material with gross distortion of the aortic valve, embolic glomerulonephritis and mycotic aneurysm. The raised blood urea on admission was probably due to embolic glomerulonephritis, aggravated by haemorrhage and operation. Vomiting after the second operation might have been due to the uraemia and it is likely that renal failure was the ultimate cause of death.

SUMMARY

A case of subacute bacterial endocarditis presenting with anaemia and haemoperitoneum from rupture of mycotic aneurysm of a branch of the mesenteric artery is described. The literature is briefly reviewed. The clinical and pathological findings are briefly discussed.

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