CASE REPORTS

CARDIAC FAILURE DUE TO TUMOUR OF THE LEFT ATRIUM

BY

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We should like to record this case of cardiac tumour, to add to those already described. No one seems to have reported the successful diagnosis of a primary innocent cardiac neoplasm during life, although more than 20 cases of primary and secondary malignant tumours of the heart have been correctly diagnosed ante-mortem (Friedberg, 1949). On account of its rarity it is seldom thought of in the differential diagnosis in cases of heart disease. Lymburner (1934) encountered only 4 primary tumours of the heart (0.05%) in a series of 8500 autopsies at the Mayo Clinic.

There appears to be no special age or sex incidence. Our case is the youngest of all reported.

Case History

A girl, aged 28 months, was admitted to the Lowestoft and North Suffolk Hospital on account of listlessness, anorexia, fever, cough, and breathlessness, of three weeks' duration. Prior to the present illness she had been an alert and very active child.

On examination she looked ill and was pale, with slight cyanosis of the lips. There was no clubbing, no distension of the jugular veins, and no peripheral oedema. She was intensely dyspnoeic and tachypnoeic, sitting up and leaning forward in bed in the manner of one suffering from severe congestive failure. The temperature on admission was 100.2°F.

The pulse was regular in rhythm but fast (140–180 a minute), and the volume and amplitude normal.

The apex beat was seen and felt in the fifth left intercostal space in the mid-clavicular line. There were no abnormal pulsations elsewhere in the precordium and no thrills on palpation. No murmurs were heard, but the second sound at the pulmonary area was thought to be accentuated. The femoral arteries were palpable. Râles were present at both lung bases. The liver was enlarged to two fingersbreadth below the costal margin and was apparently tender. The spleen was not palpable. A radiograph of the chest showed marked hilar congestion. The heart shadow was normal in size and shape.

Oliguria was present, but the urine was normal on analysis. The haemoglobin was 64 per cent and the total leucocytes 33,600 per cubic ml. The blood film suggested to the pathologist a haemolytic process associated with infection.

In view of the above findings a diagnosis of cardiac failure due to toxic myocarditis and secondary to acute pyogenic infection was made. In spite of the usual measures undertaken to combat heart failure and the administration of antibiotics she died five days later in an attack of acute pulmonary oedema.

Abstract of Necropsy

Diagnosis: Acute pulmonary oedema, tumour of the left atrium.

There was no sign of pericarditis or excess of pericardial fluid. The heart did not seem to be enlarged to any extent. There was a pedunculated papillomatous tumour, shiny and white in colour, arising from the inter-atrial septum of the left atrium and projecting through the mitral orifice into the left ventricle (Fig. 1). It appeared to block completely the mitral valve. There was no evidence of any other cardiac anomaly and the valves were normal. The aorta and pulmonary arteries were normal.

The lungs presented the usual appearance of acute pulmonary oedema and the enlarged liver was typical of congestive failure.

Although the tumour appeared to have the characteristics of a myxoma, microscopy of sections of the growth showed only necrotic tissue.
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Fig. 1.—The left ventricle opened showing part of the pedunculated papillomatous tumour projecting through the mitral orifice into the left ventricle.

Comments

We were presented with the picture of a child suffering from cardiac failure in whom there was no evidence of congenital heart disease or rheumatic carditis. The history of illness was of brief duration, not more than three weeks, and pyrexia had been observed intermittently during this period. The blood picture suggested an acute pyogenic infection, and this was considered by us to be the primary cause of the cardiac condition.

The possibility that a cardiac tumour was present was simply not thought of in the differential diagnosis. We feel, in retrospect, that if we had considered this possibility seriously we might have realised that it was as probable as our ante-mortem diagnosis. We were more favourably placed in this respect than those who have described similar cases of cardiac tumour, as owing to the age of the patient such disorders as rheumatic heart disease, cardiac infarction, and hypertensive heart disease could be thought of only to be dismissed as most unlikely.
Various clinical pictures have been described by different observers as having occurred in tumours of the left atrium. These have been well reviewed by Fawcett and Ward (1939), who refer exclusively to myxomata, and include (1) congestive heart failure, (2) fainting attacks and loss of consciousness with the patient erect, (3) sudden and unexpected death, (4) relentless progress of heart failure in spite of adequate rest and digitalization, (5) abnormal radiological shadows, (6) cardiac irregularities, and (7) paroxysmal dyspnoea.

The point about our case is that the mitral obstruction must have occurred very suddenly during the last illness. It caused intense and fatal pulmonary oedema before right heart failure developed. This was well shown in the radiograph. It is comparable to the severe and sometimes fatal pulmonary oedema that occasionally occurs in tight mitral stenosis without cardiac enlargement.

Cardiac surgery has progressed to such an extent that the removal of a benign tumour of the heart is well within the bounds of possibility, and on this account the consideration that such a lesion may be present should be entertained in any patient who presents unusual features of cardiac disability.

**Summary**

The clinical features and post-mortem findings in a case of tumour of the left atrium are described. Obstruction of the mitral valve by the tumour is shown to have been responsible for the progressive and fatal pulmonary oedema that occurred.

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**References**