CASE REPORTS

CARDIAC INVOLVEMENT IN LYMPHOSARCOMA WITH SPONTANEOUS RUPTURE OF THE HEART

BY

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Secondary neoplastic involvement of the heart is not infrequent in routine necropsies of patients dying of malignant disease but cardiac failure as a presenting feature remains uncommon, the cause of the failure often not being diagnosed till necropsy. The importance of its recognition during life, particularly in patients suffering from the reticuloses, is that the failure may benefit from radiotherapy, whereas treatment on conventional lines is often disappointing. The following case is of interest, in that cardiac failure and a lump in the abdomen were the two presenting features, and after three weeks of intractable failure, sudden death occurred from rupture of the heart.

A woman of seventy-six was admitted to Putney Hospital in congestive failure. Her story was that she had complained to her doctor of abdominal discomfort and constipation, and a lump was felt in the left iliac fossa. Further questioning revealed, however, that she had been short of breath for two to three months, with swelling of the ankles and abdomen for ten days, and orthopnœa for five days. There was no paroxysmal nocturnal dyspnœa, but cough had been present for some weeks. On examination, she was orthopnœic with a tinge of cyanosis in the lips and showed uncontrolled auricular fibrillation and signs of congestive heart failure, with a small left pleural effusion. The heart was grossly enlarged, the apex beat being in the anterior axillary line, the impulse weak. There was a presystolic gallop rhythm at the apex and a soft blowing diastolic murmur of aortic incompetence to the left of the sternum. In the abdomen, there was a smooth rounded swelling in the left iliac fossa which from rectal and bimanual examination appeared to be situated in the uterus. The bowels were constipated but flatus passed normally, the urine contained a trace of albumen. Chest X-ray confirmed considerable enlargement of the heart with widening of the mediastinum, a left plural effusion, and possibly a small pericardial effusion. The electrocardiogram showed normal voltage with a digitalis effect. After a period of slow progress with digitalis and neptal, she died suddenly twenty-three days after admission, having conversed normally five minutes before death.

Necropsy by one of us (V.T.) showed the body of a well-covered elderly woman with œdema of the legs and sacrum. The heart was grossly enlarged with extensive involvement by growth of all coats, as shown in Fig. 1 and 2. The pericardium contained a fair quantity of recent blood and there was a small tear through the myocardium, 1 cm. below and lateral to the left posterior aortic cusp. The pericardium was thickened by growth and adherent in places and the myocardium considerably replaced by similar tumours which in parts extended on to the endocardial surface as can be seen in the figure. This feature was particularly marked in the right atrium and there were also small nodular masses on the endocardial surface of the ventricles below the attachment of the atrio-ventricular valves. Histologically, the myocardium and pericardium showed extensive direct infiltration by lymposarcoma. In addition, there appeared to be spontaneous rupture with hæmorrhage through the myocardium involved by lymphosarcoma. There were also a considerable number of enlarged glands in the mediastinum, the average size being 12–25 mm. in diameter. In the abdomen, the uterus was found to be enlarged to twice its normal size, with a rounded neoplastic mass in the body. Histologically the uterus shows a metastatic deposit of lymphosarcoma in the endometrium. The lymph gland shows lymphosarcoma.

Bisel *et al.* (1953) found cardiac metastases in as many as 21 per cent of 500 consecutive autopsies on patients who had died of neoplastic disease, though they included cases of leukæmia in the series, the incidence being highest in those with leukæmia and malignant melanoma, followed by carcinoma of the breast and of the lung and lymphoma, the pericardium being the main site in approximately half the cases.

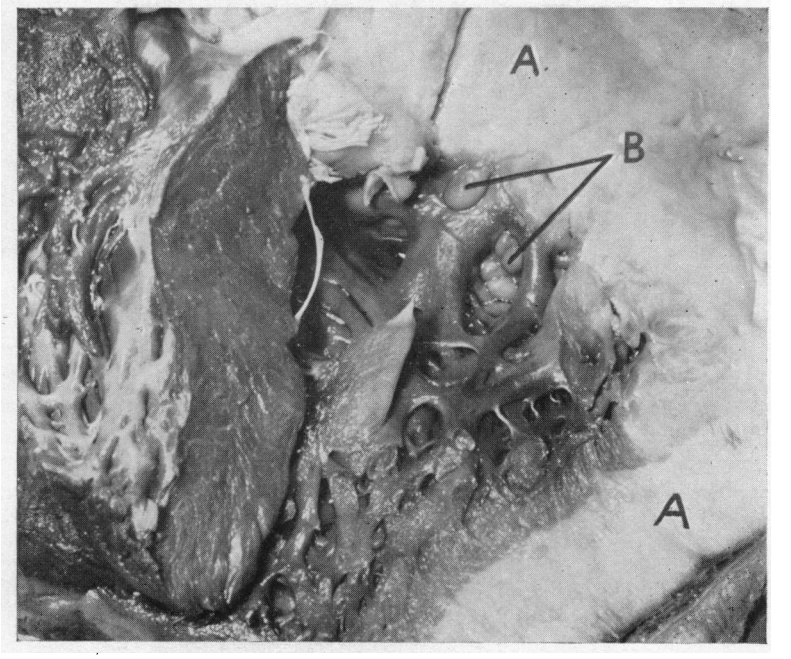

FIG. 1.—Interior of the right ventricle, showing extension of growth from the right auricle and extensive involvement of myocardium (A). Small nodules on the endocardium are seen at (B).

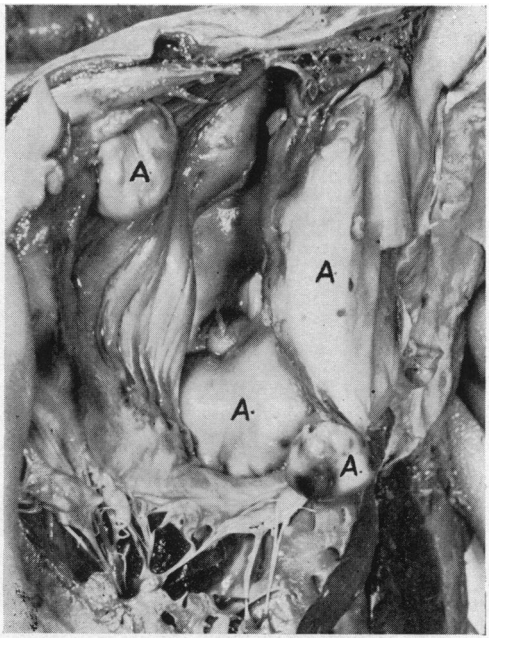

FIG. 2.—Interior of right atrium, showing invasion by growth (A).

Nabarro (1953) has recently reviewed involvement of the heart by malignant lymphoma and has shown that when cardiac signs present, intractable congestive failure with considerable cardiac enlargement and gallop rhythm is a frequent method of presentation. In the present case, these features are shown, as well as hypotension which is common in recorded cases, and auricular fibrillation which has been noted on previous occasions. This latter may be paroxysmal or persistent and it is suggested that this sometimes improves on radiotherapy (Garvin, 1941). Sudden death by cardiac rupture is, however, rare. We have been able to find only two further cases of rupture of the heart from secondary deposits, the first from a primary in duodenum, (McNamara *et al.*, 1937) and the second from melanotic sarcoma. Spontaneous rupture by itself is often reported, and is generally the result of coronary artery disease with thrombosis or hæmorrhage, but rupture has been recorded in the past from gummata, tuberculosis, and hydatid disease and associated with a tumour in the cerebellum (Patin, 1935).

Summary

In this case cardiac failure was followed by rupture of the heart due to neoplastic involvement by lymphosarcoma. Neoplastic disease of the heart should be considered when patients known to suffer from the reticuloses or neoplastic disease develop cardiac failure or when there is unexplained cardiac failure.

We wish to record our thanks to Dr. Warner for allowing us to publish this case, to Dr. F. A. Knott, visiting pathologist to Putney Hospital for the section reports, and to Miss Turnbull, Charing Cross Hospital photographic department for the photographs.

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