Hydatid disease of the heart

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A case of hydatid cyst of the heart is described, in which the diagnosis was made at coronary angiography; a new angiographic sign is described.

Human infection with *Echinococcus* results from ingestion of ova excreted by infected dogs. Of these ova 15 per cent enter the systemic circulation having passed through the liver and lungs. Though ova occasionally reach the myocardium by way of the coronary circulation, hydatid disease of the heart is extremely rare, occurring in less than 2 per cent of all cases of echinococcosis.

Since the first case described by Dévé (1915), 133 cases have been reported. In our patient the diagnosis was made at coronary angiography and confirmed by a positive Casoni test and at operation. The diagnosis should be considered in patients

who present with an abnormal heart shadow and who come from an area in which the disease is endemic.

Case report

The patient, a 23-year-old Iraqi student, complained of attacks of sharp, severe, left inframammary pain lasting for about two minutes during the preceding six months, occurring on average two or three times a week. The pain was unrelated to effort and the patient was able to lead an active life. The blood pressure was 140/90 mmHg (18.6/12.0 kPa) and the only abnormal sign in the cardiovascular system was an abnormal left ventricular im-

FIG. 1 Chest x-ray before (left) and after (right) resection of hydatid cyst.

FIG. 2 Electrocardiogram before and after resection of hydatid cyst.

pulse. The chest x-ray (Fig. 1) showed enlargement of the heart (CTR 53%) and an abnormal shape of the heart shadow suggestive of left ventricular aneurysm. The electrocardiogram (Fig. 2) showed steep symmetrical T wave inversion in leads I, aVL, and V4-V6. Though the history was atypical and the electrocardiographic pattern unlike that of left ventricular aneurysm, it was decided to proceed to right and left heart catheterization and coronary angiography. Right and left heart pressures were normal and the left ventriculogram showed a filling defect on the anterosuperior surface of the ventricle. At coronary angiography the anterior descending branch of the left coronary artery and its large diagonal branch were displaced anteriorly and stretched around a large avascular mass in the wall of the left ventricle. The capillary phase of the angiogram showed a circular blush (Fig. 3). This large spherical mass in the heart led us to consider the diagnosis of hydatid cyst. It was then found that the patient not only lived in an area where the disease was endemic, but gave a history of contact with dogs throughout his childhood; the diagnosis was confirmed by a positive Casoni test, and the complement-fixation test was positive at a dilution of 1/64 (titres greater than 1/8 are significant).

Operation

The left ventricular myocardium was stretched thinly over a cystic mass about 6 cm in diameter, which extended into the left ventricular cavity and stretched the endocardium and anterior papillary muscle. Under cardiopulmonary bypass the heart was mobilized and the capsule of the cyst was exposed by a superficial incision.

FIG. 3 Left coronary angiogram—capillary phase. Right anterior oblique view.

The myocardium was dissected free from the capsule by both sharp and blunt dissection and the cyst was delivered intact. The walls of the resulting cavity in the myocardium were approximated and the ventriculotomy was closed with a double row of sutures. The patient made an uneventful recovery.

At pathological examination the cyst was formed of a laminated outer layer and an inner germinal layer filled with a fluid in which innumerable scolices were suspended.

Seven months after operation the patient was well and symptom free. The chest x-ray and electrocardiogram had returned towards normal (Fig. 1 and 2).

Discussion

Although the diagnosis could have been made from a careful history and a positive Casoni test, it is quite likely that hydatid disease of the heart will be considered in other patients only after angiographic studies, as happened in this case. The circular capillary blush at coronary angiography may well prove to be a pathognomonic sign. Surgical removal can be rewarding.

I am grateful to Dr. M. Towers for permission to publish this case report. The patient was referred by Dr. R. P. K. Coe, and the operation was performed by Mr. Magdi Yacoub.

Reference

- Dévé, F. (1915). Sur l'échinococcose secondaire du péricarde. *Comptes Rendus de Séances de la Société de Biologie et de ses Filiales*, 78, 734.
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