Recent Multiple Pulmonary Nodules with Progressive Cardiomegaly*

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A 14-year-old girl had a chest roentgenogram in July, 1974 (Fig 1) because of dyspnea on effort. A diagnosis of congenital heart disease was made in October, 1975. In March, 1976, she was admitted to the hospital because of effort dyspnea, orthopnea, cyanosis, cough and hemoptysis. Physical examination revealed an afebrile, cyanotic, orthopneic patient with a weak pulse in all four extremities, and signs of severe congestive heart failure. The blood pressure was 90 mm Hg and the pulse rate was 120 per minute and regular. Cardiac auscultation revealed a grade 3/6 pulmonic systolic murmur and a grade 2/4 protodiastolic murmur along the left sternal border. The pulmonary examination showed expiratory rales and poor ventilation of both lower lungs. The electrocardiogram was suggestive of sinus rhythm and severe right chamber overload. Routine laboratory findings, as well as isotopic scans of kidney, thyroid and liver, were normal. Figure 2 shows the roentgenogram obtained on admission.

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Figure 1

Figure 2
Diagnosis: Multiple pulmonary hydatid cysts secondary to septal cardiac echinococcosis

Figure 1 shows a normal chest film. Figure 2 shows cardiomegaly, a prominent main pulmonary artery, and many large nodules of different sizes, scattered throughout both lungs.

Initially, a diagnosis of pulmonary echinococcosis and congenital heart disease was suggested. Although auscultatory and ECG findings supported the diagnosis of right ventricular outflow tract obstruction, the roentgenogram was not consistent with congenital pulmonary stenosis. The echocardiogram indicated the existence of a paraseptal mass protruding into the right ventricle. This echocardiographic finding, the positive Cassoni test, and the existence of the 5th arch of Capron\(^1\) led to the diagnosis of a cardiac hydatid cyst projecting into the right ventricle and secondary pulmonary hydatid cysts.

The patient died two months after admission. Necropsy revealed the existence of a single cardiac hydatid cyst (Fig 3) located in the interventricular septum and partially blocking the right ventricular outflow tract. Multiple hydatid cysts were found in the lungs. No cyst was detected in the liver.

Cardiac echinococcosis is a rare entity. Even in countries where the disease is endemic, its incidence in patients with echinococcosis is less than 2 percent. One clinical form of the disease is repeated pulmonary embolism;\(^2\) this is more frequent in cardiac than in hepatic echinococcosis. Of 43 cases of hydatid pulmonary embolism reported by Purriel and colleagues,\(^8\) 25 were cardiac in origin.

As in some types of heart tumors, cardiac echinococcosis may mimic valvular obstruction.\(^3, 4\) Our patient’s symptoms simulated severe valvular pulmonary stenosis. Early diagnosis of cardiac echinococcosis offers the only chance of cure. At least one patient without pulmonary hydatid cysts has been operated on successfully\(^4\) and remained asymptomatic seven years after surgery.\(^6\) Surgery was contra-

indicated in our patient because of pulmonary hydatid cysts and her grave condition. However, Artucio et al\(^8\) reported a successful operation in a similar patient, with a follow-up period of nine years.\(^8\)

References

5 Personal communication