The hydatid cyst had ruptured. Surprisingly, the patient did not have an anaphylactic reaction and hemoptysis did not recur while she was in the ICU. For premedication, midazolam (0.05 mg kg\(^{-1}\)) was given intravenously in the ICU before the patient was taken to the operating room. General anesthesia was induced with fentanyl (50 µg kg\(^{-1}\)) and 2.5% thiopental (5 mg kg\(^{-1}\)); for safe endotracheal intubation, vecuronium (0.1 mg kg\(^{-1}\)) was given intravenously. For maintenance of anesthesia, fentanyl (5 µg kg\(^{-1}\)) and vecuronium (0.8 mg kg\(^{-1}\)) were given as intravenous anesthetics and isoflurane as an inhalation anesthetic.

The operation was performed through a median sternotomy incision. The pericardium was opened, and the heart was cannulated and connected to extracorporeal bypass circulation. Under cold potassium and blood cardioplegic and ischemic arrest, a right atriotomy was performed. The cystic mass had ruptured and could be easily seen within the posterior wall of the right atrium. The wall of the cyst was stretching toward the connecting point of the inferior vena cava and right atrium. The cyst was dissected away successfully. Then, the wall of the right atrium was closed with a Teflon felt support and the patient was removed from the pump-oxygenator, tolerating the operation well. After the operation, the patient admitted to the ICU and was sedated with propofol (30 µg kg\(^{-1}\) min\(^{-1}\)).

After an uncomplicated postoperative period, medical treatment with albendazole was continued and the patient was discharged from the hospital 10 days after the operation. The patient remains in a good health.

Discussion. Echinococcosis in human beings is caused by the larval form of *Taenia echinococcus*, which lives in the gut of the dog, wild canids, and other carnivorous animals. In its
early stages, the echinococcus larva arrives in the left cardiac cavities through either the pulmonary capillary network or the right atrium owing to patency of the foramen ovale. Reaching the coronary arteries, the larva invades the myocardium, requiring 1 to 5 years to attain adult form.5

Hydatidosis of the heart is uncommon and is characterized by a high incidence of sudden life-threatening complications.2,6 The clinical progress of hydatid disease depends on the location and size of the cyst. Cardiac hydatid cysts may be asymptomatic or may provoke electrocardiographic signs of subepicardial ischemia and conduction disturbance of the His bundle or its branches.7 The clinical symptoms induced by hydatid cysts are due to related complications, such as rupture, obstruction, or compression.3,5,8,9 Massive pulmonary embolism, hydatid pulmonary hypertension, systemic embolism, and anaphylactic reactions have been reported as a result of rupture of the cyst.2,3,7 In our case, the massive hemoptysis occurred without any anaphylactic reaction. The marked incidence of catastrophic complications including sudden death in cardiac echinococcosis emphasizes the need for early diagnosis.5,10,11 The techniques of cardiac imaging, either computed tomography or 2-dimensional echocardiography, that are sensitive and useful diagnostic procedures in cardiac echinococcosis have greatly facilitated the detection of cardiac involvement.8,10,11

After the diagnosis, because of the location and the risk of rupture with consequent pulmonary embolization, surgery should be performed on an emergency basis.3,5,12 In our case, too, cardiac surgery was performed on an emergency basis, and when the heart was opened, rupture of the cyst was easily visible.

It is also important to recognize anaphylactic reactions during surgical procedure so that immediate treatment can be instituted to restore both circulatory competency and cardiac output. Anaphylaxis can be suspected but cannot be proved without specific tests. In our case, during anesthesia, there were no hemodynamic changes and no evidence of an anaphylactic reaction.

We conclude that any child from a region in which echinococcosis is endemic, especially a child having any symptom indicative of echinococcosis, should be carefully examined for a cardiac hydatid cyst. Two-dimensional echocardiography, computed tomography, magnetic resonance imaging, and enzyme-linked immunosorbent assay for *Echinococcus* were excellent methods for establishing the diagnosis in this case and allowed the immediate correct treatment of this rare condition. Because accidental rupture ofjyphudes has serious consequences, anesthesiologists must be aware of the possibility of anaphylactic reactions.

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