

Intracardial dislocation of a cranio-peritoneal shunt in a 6-year-old boy

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A 6-year-old boy, who had undergone surgical shunt implantation from the cranial ventriculum to the peritoneum after rupture of a subarachnoidal cyst at the age of 6, was referred to the hospital for routine check-up after developing fatigue and fever. In the physical examination he presented abnormal holosystolic–diastolic heart sounds and distinctive arrhythmia. The cranio-peritoneal shunt was no longer palpable beneath the skin caudal the neck. Likewise, abdominal ultrasound failed to demonstrate the shunt which had been verifiable properly located 1 year ago. Echocardiography showed foreign material reaching from the right atrium through the right ventricle into the pulmonary arteries, with moderate to severe tricuspid and

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Fig. 1 PA and lateral chest radiograph showing the former cranio-peritoneal shunt dislocated into the great vessels reaching through the right atrium to the right ventricle and pulmonary arteries

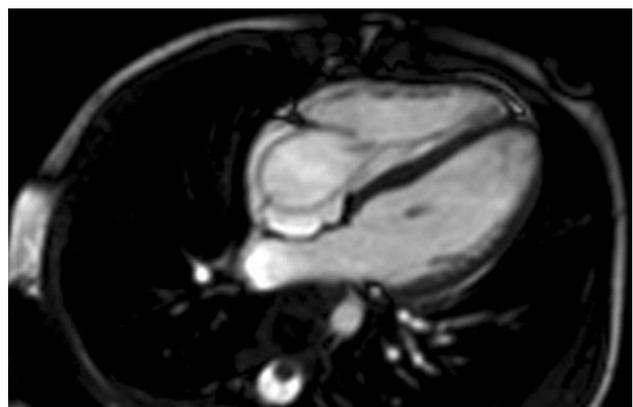


Fig. 2 Cardiac MRI showing the dislocated shunt in the four-chamber view

pulmonary valve insufficiency. Chest radiography proved the shunt being intravascularly dislocated and forming multiple loops in the heart and pulmonary artery (Fig. 1).

Cardiac MRI was performed for accurate determination of shunt location and intravascular course (Fig. 2; Movie), proving the shunt perforating the left V. jugularis and showing uniform intracardiac shunt movement, therefore suggesting intracardiac shunt fixation. Higher grade impairment of right heart valvular function and repetitive arrhythmia made shunt extraction necessary. Cervical pultrusion using various mandrils was unsuccessful, and, therefore, surgical shunt removal was necessary. Open

heart surgery was performed which confirmed the shunt being intracardially adnated near the pulmonary valve, with otherwise unimpaired valvular morphology and function. After successful surgical shunt extraction, the patient recovered well. Endocarditis prophylaxis was given for 6 months. In the ½-year follow up after surgery, echocardiography showed no irregularities apart from mild tricuspid insufficiency with the patient presenting in good physical health.