DIRECT COMMUNICATION BETWEEN RIGHT PULMONARY ARTERY AND LEFT ATRIUM

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INTRODUCTION

Direct communication between the right pulmonary artery and the left pulmonary artery is an extremely rare anomaly, up to date 50 cases have been published, including our case.¹

The aim of this report is to describe a case report with her surgical correction.

Case report

A 6 year old girl was admitted to our hospital. Clinical history revealed cyanosis and dyspnea on effort since the age of 5. Physical examination confirmed central cyanosis and clubbing, arterial pressure 100/70 mmHg, cardiac rate 72 per minute, respiratory rate 24. Precordial and cardiac sounds were

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ration was detected from the pulmonary vein (93%) to the left atrium (82%). Oxygen content remained low in the left ventricle and aorta. Mean pressure in the left atrium was 4, left ventricle 100/4 and aorta 110/75/86 mmHg. Angiocardiography performed in the right pulmonary artery revealed a saccular communication between this vessel and the left atrium (Figure 1). Distal injections in both pulmonary arteries allowed to visualize normal progression of the contrast material in the lungs. The patient underwent surgery, by sternotomy the right hilium was dissected, the abnormal fistula identified and ligated. An increase in the arterial saturation was detected immediately. She recovered uneventful during the four days after the operation, at the fifth day she developed unexpected generalized convulsions, followed by hemiparesia. An echocardiogram showed no residual thrombus.

Craneal tomographic scans disclosed occipital and lacunar infarctions. Four months later, the patient is doing well with no residual sequela. A control selective angiocardiogram in the right pulmonary artery revealed no residual shunt (Figure 2).

DISCUSSION

Direct communication between the right pulmonary artery and the left atrium should be considered when other usual causes of cyanosis have been excluded. The bidimensional echo study should revealed the diagnosis taking in mind this anomaly. This malformation is considered as a distinct entity, quite apart from the well known pulmonary arteriovenous fistula. All reported cases have shown cyanosis, from birth to late adulthood. The following complications have been described: systemic embolism, cerebral abscess. Our patient presented systemic embolism, probably related to a residual thrombus in the left atrium. Associated lesions reported are hemangioma of the forehead, stenosis of the left pulmonary artery, varicose veins of the legs, and pulmonary valve regurgitation.

Embryologically this malformation may result from a fistula, during early embryonic development, between the pulmonary artery and the main primitive pulmonary veins. Later the large pulmonary vein becomes incorporated into the wall of the left atrium during atrial enlargement. This is supported by the fact that in

normal. At the right side of the chest, a systolic soft murmur grade I/IV was audible. Chest ray and ECG, as well as segmental analysis by bidimensional echocardiography, were normal; in addition, only slight left chambers enlargement was noticed. Cardiac catheterization showed mean pressure in the right atrium of 3, right ventricle 14/3, pulmonary trunk 14/6/9 mmHg with normal oxygen content in the right side of the heart; however, a blood desa...
In some cases the pulmonary veins and the right pulmonary artery drain into a saccular dilatation before entering the left atrium. In our case, the fistula was saccular in shape, however, the pulmonary veins connected properly with the left atrium. Surgical ligation of the fistula with or without cardiopulmonary bypass has been the appropriate treatment.

In conclusion, in patients with late onset cyanosis and normal heart auscultation, this anomaly should be considered once the more usual diagnosis have been laid aside. This is the first case reported in Mexico.

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REFERENCES


