

How to clinically diagnose a fixed pulmonary hypertension in left-to-right shunts: a medical challenge for humanitarian organizations.

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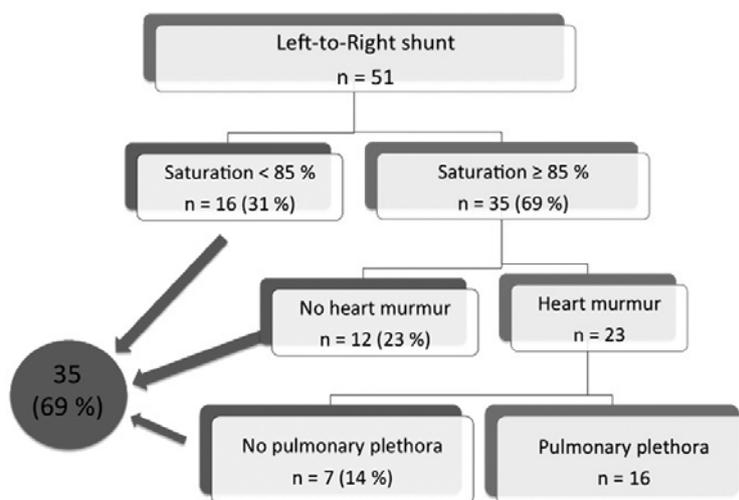
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Background: Mécénat-Chirurgie Cardiaque (MCC) is a humanitarian organization whose purpose is to treat in France children from developing countries suffering from congenital heart diseases that cannot be treated in their home country. Their coming is decided solely on the analysis of medical records often without diagnostic certainty. It happens that children arrive in France with a wrong diagnosis or too late, and have to return without surgery.

Aim: The aim of this work is to highlight simple diagnostic criteria to suspect fixed PAH in children from developing countries with left-to-right shunt heart disease to avoid an unnecessary coming in France.

Material and methods: we studied retrospectively the files of all children with left-to-right shunt heart disease sent to MCC that gone back without surgery because of a fixed PAH. We analysed only the data that can be available in all countries: skin saturation, clinical examination (heart murmur or not) and chest x-ray.

Results: Since 1996, 51 children with left-to-right shunt heart disease out of 2700 supported by MCC (1.9%) are returned to their countries without surgery, because of a fixed PAH. In 20 children, the inoperability due to fixed PAH was diagnosed on clinical and echocardiographic data, without heart catheterization: 17 show no more any signs of high pulmonary blood flow, attesting to the fixed PAH. The other 3 were recused because of the high complexity of their disease. Heart catheterization with pulmonary vascular resistance measurement was made in 31 children (15 without any shunt signs), and led to recuse the surgery in all.



The proposed chart shows that with simple information (saturation <85%, no heart murmur, absence of pulmonary plethora on chest x-ray), 35 children out of 51 wouldn't have come: only patients with saturation ≥85%, heart murmur and pulmonary plethora (16/51) remain possibly able to be treated, warranting rapid catheterization.

Conclusion: With simple clinical and radiographic data, 70% of children having a fixed PAH consecutive to a left-to-right shunt could be detected, allowing humanitarian teams to focus on the 30% remaining for a rapid and efficacious coming to France to win the race against the fixed PAH.