Author's response to reviews

Title: A rare case of Crossed Pulmonary Arteries in an infant- case report

Authors:

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Version: 3 Date: 29 March 2013

Author's response to reviews: see over
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Reviewer's report

Title: A rare case of Crossed Pulmonary Arteries in an infant- case report

Version: 2 Date: 13 March 2013

Reviewer: Vera D Aiello

Reviewer's report:

The authors describe a case of crossed pulmonary arteries associated with other congenital cardiovascular defects: atrial septal defect, patent arterial duct and pulmonary vein stenosis.

The report is concise, the figures show good quality and are representative of the described findings.

The discussion needs some improvement in order to make the report an educational case.

It is important to acknowledge that malposition of the pulmonary arteries may also present as a “lesser form” as described by Becker et al in 1970. A good review of both forms of malposition can be found in “Cuturilo G et al, Cardiology in the Young (2013), 23, 181–188”.

The reviewer is correct and we have added these sentences to the Discussion:

Malposition of the pulmonary arteries is a rare congenital heart disease with two forms[3].

Becker et al also reported a “lesser form” of malposition of the pulmonary arteries in 1970[6]. In this form, the left pulmonary artery ostium lies directly superior to the ostium of the right pulmonary artery, but the branches are not crossed[3].

Although the authors state that the thoracic aorta compressed the main left bronchus, this feature deserves further explanation about the mechanism of compression and aortic position, with the inclusion of at least one relevant reference.

We have added these sentences to the Discussion:

Airway obstruction is well-recognized in children with congenital heart disease[9]. It may be related to extrinsic compression by vascular structures such as dilated branch pulmonary arteries, the malpositioned descending aorta and the pulmonary arterial sling. Thoracic aorta located anterior to the thoracic vertebrae in our patient. The left main bronchus was oppressed by the malpositioned thoracic aorta.

It would also be interesting to emphasize that these pulmonary branch anomalies usually do not require surgical correction, unless they are associated with stenosis or other lesions.

The reviewer is correct and we have added these sentences to the Discussion:

Despite the abnormal location and course of the branch pulmonary arteries, crossed pulmonary arteries do not cause hemodynamic abnormalities.

Crossed pulmonary arteries usually do not require surgical correction, unless they are associated with stenosis or other lesions.
The surgical approach of the additional defects in the reported case should also be described.

We have added this sentence to the Discussion:

Crossed pulmonary arteries usually do not require surgical correction, unless they are associated with stenosis or other lesions. However, in patients who have unrepaired systemic to pulmonary communications with associated cyanosis, surgical intervention can be fatal[17]. So the patient did not undergo surgery in our institution.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

We have done some language corrections in the article.

Declaration of competing interests:

I do not have any conflicts of interest to declare.
Reviewer's report

Title: A rare case of Crossed Pulmonary Arteries in an infant- case report

Version: 2 Date: 25 March 2013

Reviewer: Cleusa Santos

Reviewer's report:

It is a case report very interesting and important because its rarity.

I did not understand the presence of cyanosis in this case in the presence of PDA and ASD. Please explain its physiopathology.

An echocardiogram revealed pulmonary hypertension. The main pulmonary arterial diameter is dilated in CT images. The diameter of main pulmonary artery and ascending aorta were 1.1cm and 2.2 cm, respectively. The ratio of the pulmonary artery (PA) to ascending aorta(AA) diameter is 2. The “ratio of the PA to AA diameter (PA/AA ratio) >1” was reported to have a high specificity of 92% for pulmonary hypertension with a definition of a mean pulmonary arterial pressure greater than 20 mm Hg for pulmonary hypertension and also to demonstrate a strong correlation with invasive right heart catheterization-derived mean pulmonary arterial pressure (correlation coefficient, 0.74)(Ng CS et al, CT sign of chronic pulmonary arterial hypertension: the ratio of main pulmonary artery to aortic diameter. J Thorac Imaging 1999; 14:270–278. ). When pulmonary pressure supersedes the systemic pressure, blood will shunt right to left across existing cardiovascular channels, such as the ASD or PDA, and result in intractable systemic hypoxaemia and cyanosis[8].

We have added this sentence to the Discussion:

Despite the abnormal location and course of the branch pulmonary arteries, crossed pulmonary arteries do not cause hemodynamic abnormalities. When pulmonary pressure supersedes the systemic pressure, blood will shunt right to left across existing cardiovascular channels, such as the ASD or PDA, and result in intractable systemic hypoxaemia and cyanosis[8].

What was the treatment undertaken for this child?

We have added this sentence to the Discussion:

Crossed pulmonary arteries usually do not require surgical correction, unless they are associated with stenosis or other lesions. However, in patients who have unrepaired systemic to pulmonary communications with associated cyanosis, surgical intervention can be fatal[17]. So the patient did not undergo surgery in our institution.

This images are very elucidatives

In relation to the references I didn't find # 4

The URL was: http://www.ncbi.nlm.nih.gov/pubmed/3725636

Congratulation to the authors

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I declare that I have no competing interests

Thanks for your suggestions.