Cardiology in the Young

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Images in Congenital Cardiac Disease

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Giant pseudo-aneurysm of the right ventricular outflow tract after Tetralogy of Fallot repair

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Abstract

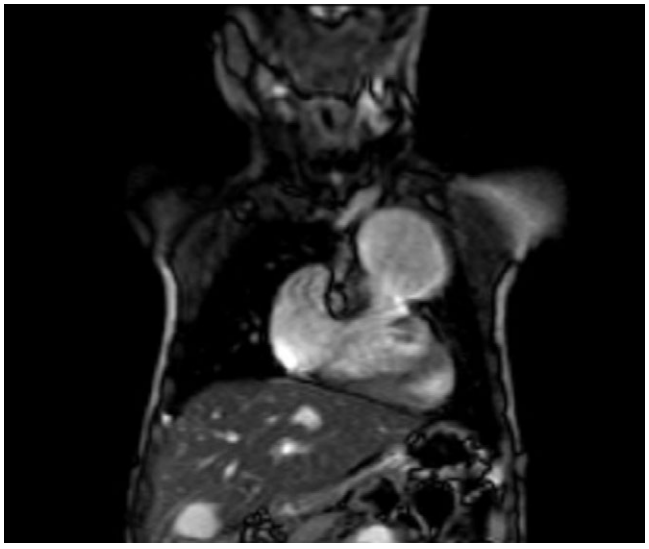
Images of the diagnosis and correction of a pseudo-aneurysm at the right ventricular outflow tract, one of the rarest complications of Tetralogy of Fallot surgical correction.

Report

We report the case of a 3-year-old girl who was submitted to Tetralogy of Fallot's correction at 15 months of age. The surgery consisted in limited right ventriculotomy, closed with pericardial tissue, muscular resection in the right ventricular outflow tract, ventricular septal defect closure with a dacron patch, pulmonary valvulotomy and pulmonary trunk widening with pericardial tissue. The procedure was uneventful and the infant was discharged home 6 days after surgery. During follow-up, a residual gradient of 50 mmHg at the pulmonary artery's bifurcation was identified, and a right ventricular outflow tract's pseudo-aneurysm was diagnosed 2 years after surgery. We believe it was promoted by the distal gradient causing pressure in an area of higher fragility, where the pericardial tissue was closing the ventriculotomy. Cardiac magnetic resonance confirmed those findings. The patient was clinically well, the only physical sign was a pulsatile chest swelling at second and third intercostal spaces on left sternal border. Multidisciplinary team decided for surgical correction. Bypass was achieved with leg vessels cannulation to avoid the risk of pseudo-aneurysm rupture during sternotomy. The pseudo-aneurysm was identified, carefully dissected, and closed with a dacron patch. Its margins were resected. The pulmonary trunk and branches were re-widened. Procedure was uneventful. Patient was discharged home, 6 days after surgery, clinically well, with no residual gradient or pseudo-aneurysm recurrence. Although described before,[1] this paper documents this complication and correction with high-quality images, and recalls its risk on the Tetralogy of Fallot population, demanding awareness in their follow-up.

Images

- Cardiac magnetic resonance showing the pseudo-aneurysm at the right ventricular outflow tract.



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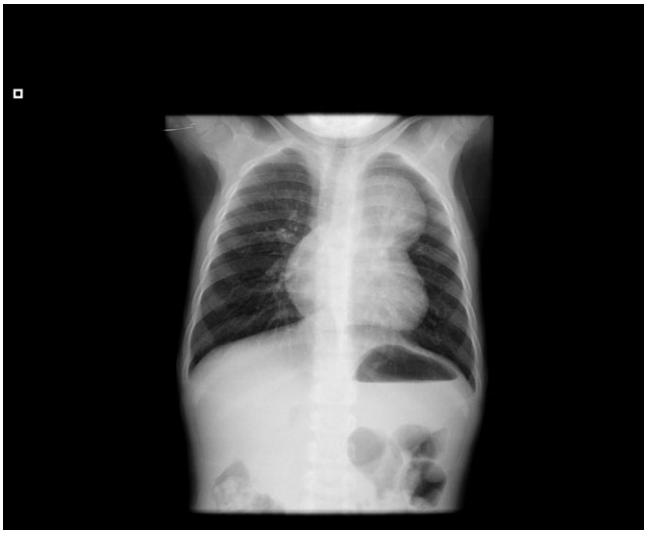
- Antero-posterior chest radiography showing the pseudo-aneurysm radiographic silhouette.



- Echocardiogram on parasternal short-axis view showing the pseudo-aneurysm neck at the level of right ventricular outflow tract. Legend: PA – pulmonary artery, Pseudo-A. – pseudo-aneurysm, RVOT – right ventricular outflow tract.

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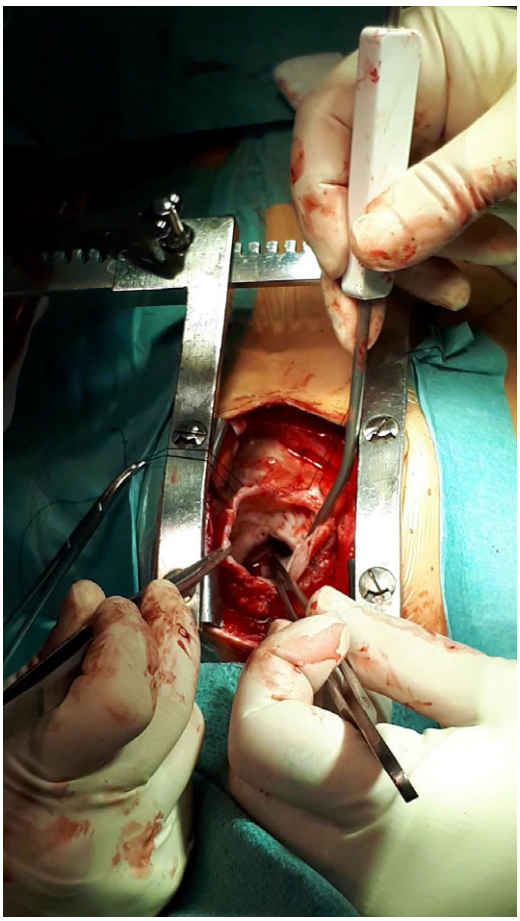
- Pseudo-aneurysm opened at the time of surgical correction. Margins of the pseudo-aneurysm were resected.



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Conflicts of Interest. None.

Reference

1. Tirilomis T, Friedrich M, Zenker D, Seipelt RG, Schoendube FA, Ruschewski W. Indications for reoperation late after correction of tetralogy of Fallot. Cardiol Young 2010; 20: 396–401.

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