

Non Traumatic Brachiocephalic Pseudo Aneurysm

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Tetralogy of Fallot (TOF) is a constellation of cardiac abnormalities including: pulmonary artery stenosis, concentric hypertrophy of the right ventricle, a large ventricular septal defect (VSD) and aorta that overrides the VSD [1].

Blalock and Taussig first reported their successes in a palliative surgery for TOF in 1945 [2]. This procedure, bearing their name, in its classic or modified version—using a Gortex graft tube instead of the Subclavian artery, is still being used today even though intra cardiac repair is now the procedure of choice.

Pseudo aneurysm arising from the origin of the Blalock Taussig (BT) shunt is a rare yet serious late complication of this procedure. It usually manifests weeks to months after the initial surgery as a mass effect compressing the adjunct organs or as massive hemoptysis [3,4]. Surgical correction is the preferred intervention in a child with this dreaded complication [3,4]. We previously reported an unprecedented case of an adult who was treated as a child for TOF by modified BT shunt that presented years later with an acute pseudo aneurysm–SVC fistula resulting in physiologic superior vena cava syndrome [5].

Brachiocephalic artery pseudo aneurysm is not a common entity. Mostly it is the result of blunt trauma to the chest [6]. Non traumatic etiologies include infections and complications of aortic dissection. Rarely, it may be a late and at times chronic complication of vascular surgery or even endovascular intervention [5,7].

Clinical presentation is often related to mediastinal mass effect, hemoptysis, or as we have recently described, a fistula formation. Given the rarity of this entity, a high index of clinical suspicion is needed for diagnosis.

Treatment can be either surgical or endovascular [8,9]. In chronic and heavily calcified pseudo aneurysm, intravascular stenting seems to be the procedure of choice. Due to its rarity this specific topic is poorly studied and further long term studies are needed.

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Received December 14, 2015; Accepted March 15, 2016; Published March 18, 2016

Citation: Galante O, Lior F, Almog Y (2016) Non Traumatic Brachiocephalic Pseudo Aneurysm. *J Pulm Respir Med* 6: 327. doi:[10.4172/2161-105X.1000327](https://doi.org/10.4172/2161-105X.1000327)

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