

## BLALOCK TAUSSIG (BT) SHUNT IN A CYANOTIC CONGENITAL HEART DISEASE

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A twenty-five years old man was referred for MDCT to evaluate the pulmonary vasculature and a systemic to pulmonary shunt, which is done to increase the size of pulmonary arteries. Below is shown Volume Rendered Image showing a BT shunt (red arrow) between Left subclavian artery and left Pulmonary artery. The BT shunt is patent.

### BLALOCK-TAUSSIG SHUNT:

Blalock-Taussig (BT) shunt, also known as Blalock-Thomas-Taussig shunt, is a palliative procedure designed to increase pulmonary arterial blood flow in patients with right ventricular outflow tract obstruction (e.g. tetralogy of Fallot) or during initial staged repair of hypoplastic left heart syndrome.

Originally the shunt sacrificed the subclavian artery (with a distal ligation) and the proximal portion is routed downwards to an end to side anastomosis with the ipsilateral branch of the pulmonary artery. The modified BT shunt nowadays uses a synthetic graft, usually expanded polytetrafluoroethylene (Gore-Tex®), to connect the arteries.

The BT shunt was the first surgical systemic-artery-to-pulmonary-artery shunt.<sup>1</sup> The procedure was named after Alfred Blalock (surgeon to first perform this procedure) and Helen Taussig (paediatric cardiologist, who designed the shunt). Vivien Thomas, who was Blalock's laboratory technician, developed the procedure in laboratory dogs and adapted instruments for the first human surgery from those used on the experimental animals. The procedure was first performed in a 15-month-old girl with tetralogy of Fallot in November 1944 at Johns Hopkins University Hospital in Baltimore, Maryland (USA).

A modified BT shunt technique using "plastic prostheses" was first described by Klinner in 1962.<sup>2</sup> This approach using a synthetic Gore-Tex graft in place of ligation of the subclavian artery yielded a less disruptive and more easily reversible outcome.



Figure-1: VR Image showing a patent modified BT shunt (red arrow) between Left subclavian artery and left Pulmonary artery

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### REFERENCES

1. Blalock A, Taussig HB. Landmark article May 19, 1945: The surgical treatment of malformations of the heart in which there is pulmonary stenosis or pulmonary atresia. By Alfred Blalock and Helen B. Taussig. JAMA. 1984;251 (16): 2123-38. Pubmed citation
2. Klinner W, Pasini M, Schaudig A. [Anastomosis between systemic and pulmonary arteries with the aid of plastic prostheses in cyanotic heart diseases]. Thoraxchirurgie. 1962;10:68-75. (Article in German).

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