




# Pacing in congenital heart disease


ASMAA EL ABBADY , NHI

- ▶ Ms D.M 16 yrs female patient , severe form of tetralogy of fallot
- ▶ At age 1.5 yrs, MBT shunt operation.
- ▶ At age of 6 yrs, bilateral Glenn shunt operation.
- ▶ At age of 14
  - a syncopal attack .
  - ECG : complete heart block

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- ▶ Echocardiography:
    - well functioning both RT and LT side Glenn shunts, and MBT shunt.
    - peak pressure gradient across the PV 83 mmhg.
    - Fair function of mildly dilated RV , mod TR
    - Preserved LV function , mild MR

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- ▶ epicardial pacemaker was implanted surgically pocket infraclavicular
  - ▶ Regular follow up :
    - high lead thresholds and impedance
    - ERI 2-3 years
  - ▶ syncopal attack after failure of the epicardial lead

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- ▶ Heart Team consultation
  - Surgical implantation of new epicardial lead
  - Trial of transvenous trans-shunt approach

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- ▶ A case report published in 2013 describing a transvenous pacemaker implantation through a SVC – Glenn shunt – Pulmonary artery – RVOT – RV apex , successfully done with good parameters .



Case Report

## Pacing after Classical Glenn shunt in Dextrocardia with Cyanotic Heart Disease

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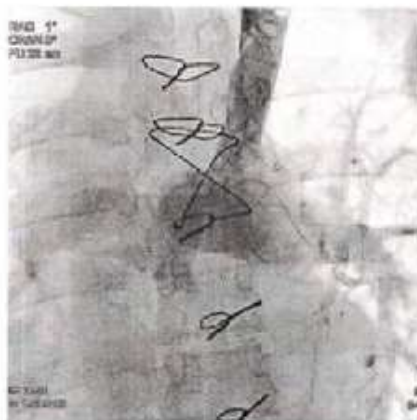


Fig. 2 : SVC Venogram showing Classical Glenn Shunt in Dextrocardia. Left sided SVC anastomosed to Main Pulmonary Artery

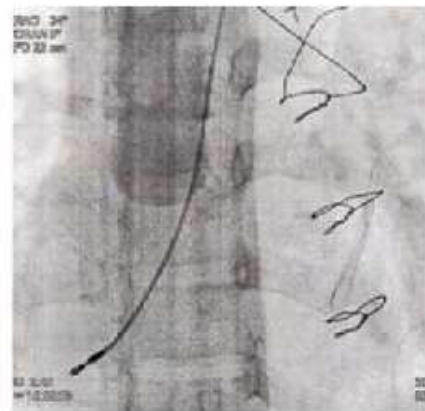




Fig. 3 : Screw in RV lead at RV apex in Dextrocardia thru Glenn Shunt

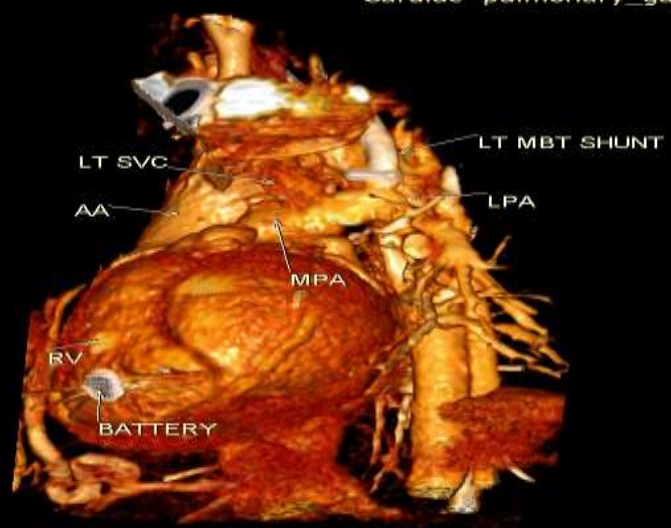
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- ▶ Transvenous trans-shunt approach
  - ▶ Team : implantologist and pediatric cardiology interventionist anaesthesiologist.

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- ▶ MSCT revealed :
    - large secundum ASD , large subaortic VSD, overriding Ao , dilated RT side.
    - Patent MBT shunt
    - Patent both RT and LT glenn shunts
    - Antegrade continuity between RV and PA , with infundibular , valvular and supra-ventricular stenosis ( 0.64 cm)

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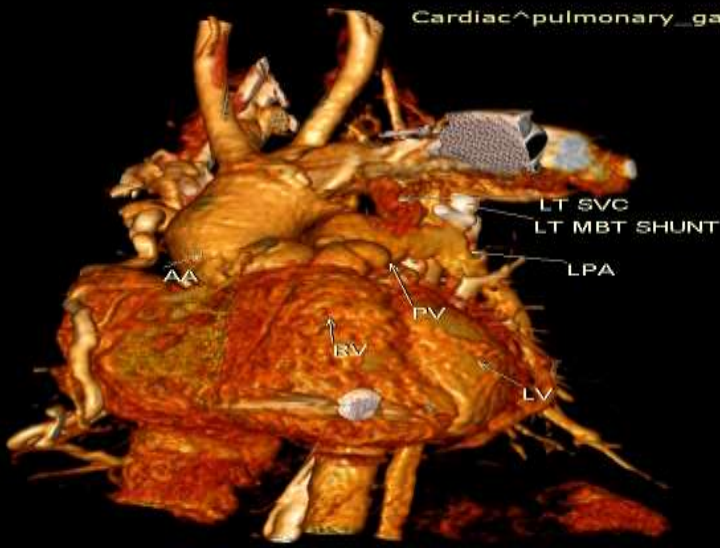
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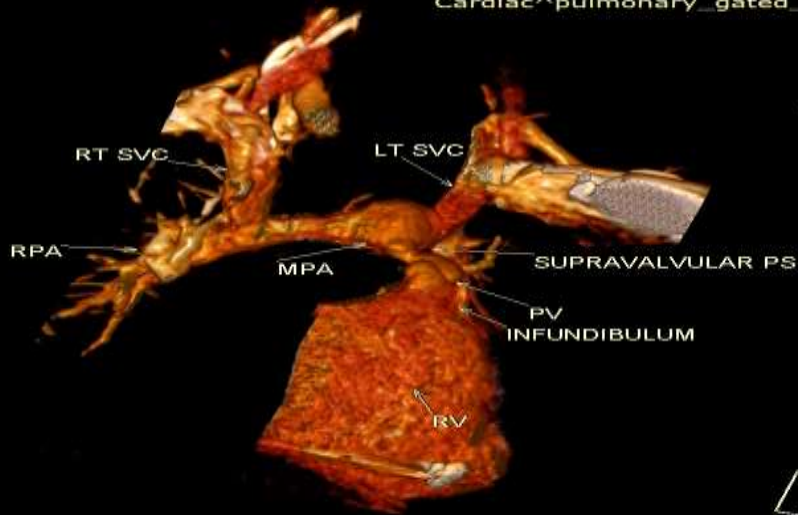
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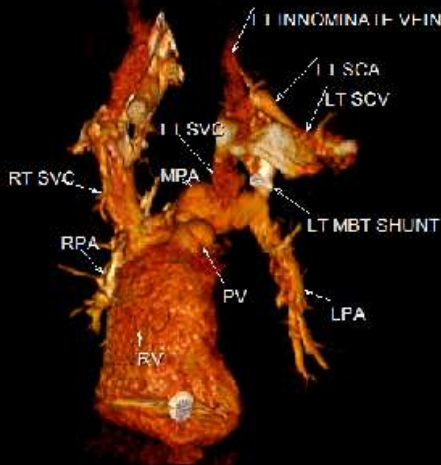
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- ▶ Difficulties :
  - ▶ directing the lead through different angulations.
  - ▶ passing through the stenotic pulmonary valve

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- ▶ Post procedure Echocardiography :
    - patent left glenn shunt
  - ▶ Device interrogation :
    - Threshold 0.75/0.4
    - Impedance 550