

## Challenging case



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## Case history

- *Female patient 50 y old with history of permanent pacemaker implantation 7 y ago ,Presented with pacemaker erosion*





## *Examination*

- *Pacemaker was implanted on Rt side ?*



## *2<sup>nd</sup> step*

*A distinction should be made between local device infection and cardiac device-related IE (CDRIE).*

- *Local device infection is defined as an infection limited to the pocket of the cardiac device and is clinically suspected in the presence of local signs of inflammation at the generator pocket, including erythema, warmth, fluctuance, wound dehiscence, erosion, tenderness or purulent drainage*



## *Investigations*

- *TTE and TEE*

*For evidence of vegetations on the lead*

- *Blood culture and sensitivity*

- *lead culture after extraction*

## *In our case*

- *TTE , TEE was negative*
- *Culture was negative .*
- *So our case most probable only local device infection*



## *Management Strategies*



## *Management Strategies*

- 1- Prolonged antibiotic therapy for 2-4 w*
- 2 – Device extraction and debridment of the wound .*
- 3 – Temporary pacemaker should be avoided if possible .*
- 4 – Re implantaion on contralateral side after revision of indication of pacing*

## *In our case*

- 1 – Debridment of the wound was done with removal of battery*
- 2 – Antibiotic therapy for 2 w*
- 3- Temp pacemaker was inserted ( patient dependable )*
- 4-Verification of LT side of re implantation on LT side*

And it was the surprise !!!



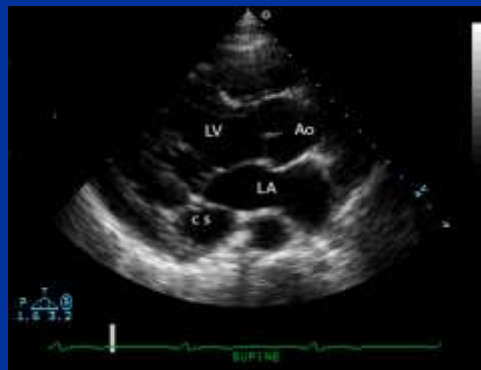
*Persistent left superior vena cava*



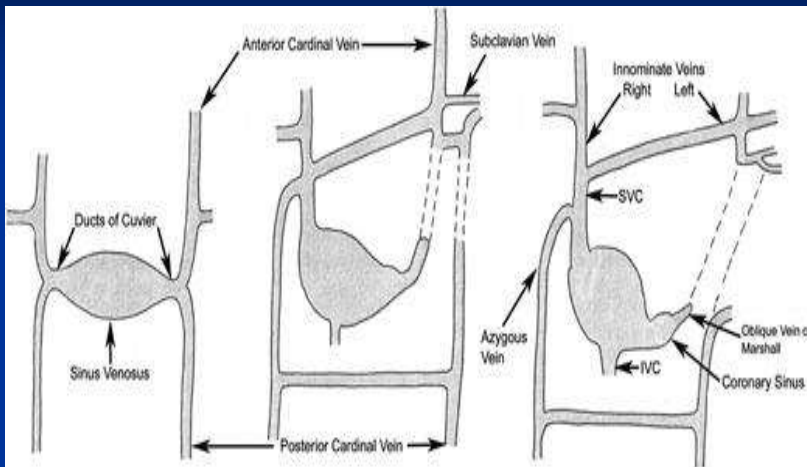
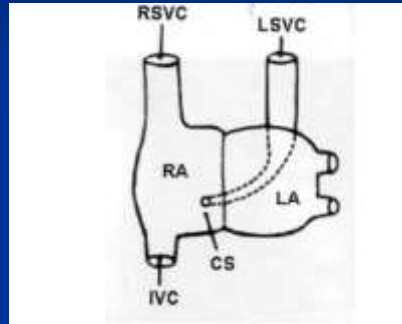
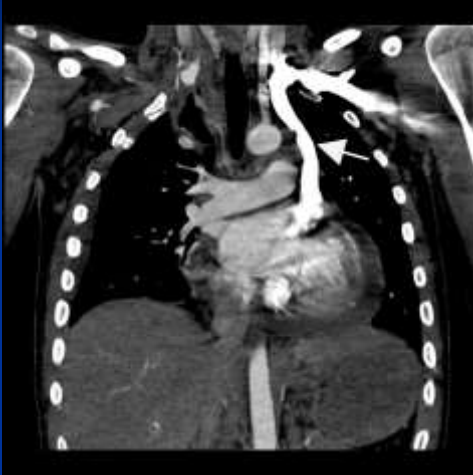
## *Persistent left superior vena cava*

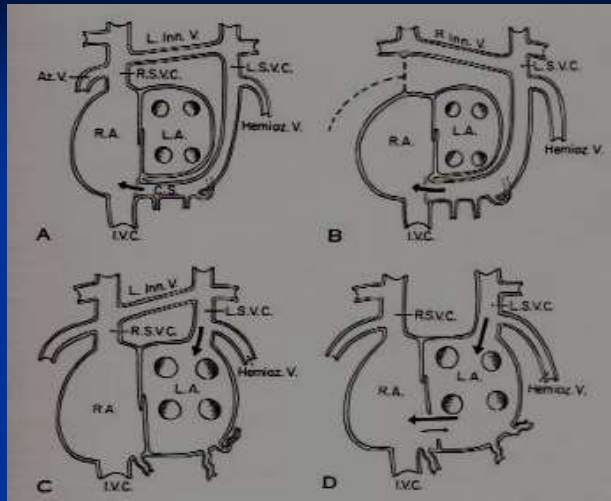
- It is rare congenital vascular anomaly.
- It results when the left superior cardinal vein caudal to the innominate vein fails to regress.
- It is most commonly observed in isolation but can be associated with other cardiovascular abnormalities including atrial septal defect, bicuspid aortic valve, coarctation of aorta, coronary sinus ostial atresia, and cor triatriatum.
- The presence of PLSVC can render access to the right side of heart challenging via the left subclavian approach, which is a common site of access utilized when placing pacemakers and Swan-Ganz catheters.

- It is usually asymptomatic
- Incidental notation of a dilated coronary sinus on echocardiography should raise the suspicion of PLSVC. The diagnosis should be confirmed by saline contrast echocardiography.









*What is the decision*



- *After 2 w of antibiotic therapy and exclusion of infective endocarditis .*
- *The wound was very clear with no signs of infection .*
- *So we decided to re implant the battery again on RT side pocket with subpectoral implantation*

*2 months later*

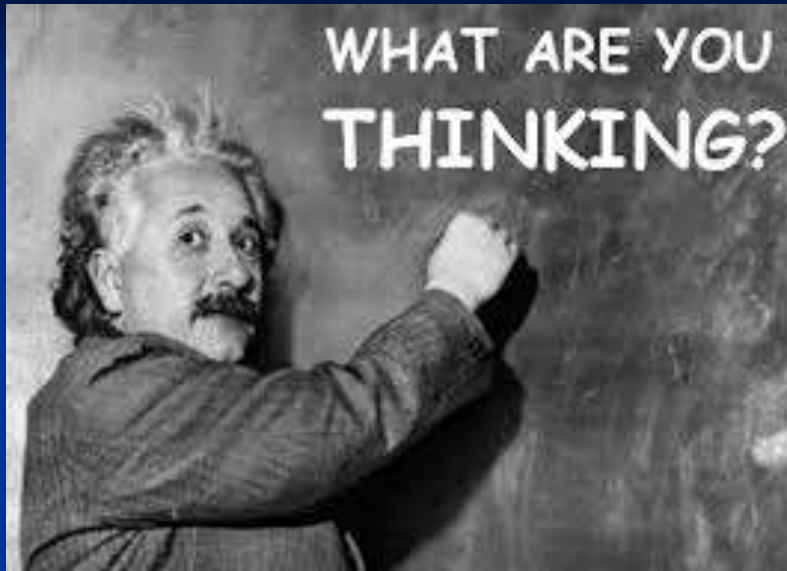
- *Unfortunately „*
- *The patient was presented again with pacemaker erosion .*

## *What is the solution ?*



### *Four difficult solutions*

- 1- LV Endocardial pacing through subclavian artery puncture ( risk of damage of Aortic valve ,, systemic embolism )*
- 2- Epicardial pacing and insertion of abdominal pacemaker ( open heart surgery )*
- 3- Insertion of the lead through CS ( using LV lead of CRT system ,, Wide large CS with poor fixation )*
- 4- Lt sided implantation ( Passage of the lead from PLSVC to CS to RA TO RV ,, difficult insertion )*



*Our team decision*

*Lt sided implantation :Passage of  
the lead from PLSVC to CS to  
RA TO RV ,, difficult insertion.*



## References

1. [Jump up](#) Pabwa R, Kumar A (May 2003). "*Persistent left superior vena cava: an intensivist's experience and review of the literature*". *South. Med. J.* **96** (5): 528–9. doi:10.1097/01.smj.0000060885.27846.91. PMID 12911192.
2. [Jump up](#) Gonzalez-Juanatey C, Testa A, Vidan J, et al. (September 2004). "*Persistent left superior vena cava draining into the coronary sinus: report of 10 cases and literature review*". *Clin Cardiol.* **27** (9): 515–8. doi:10.1002/clc.4960270909. PMID 15471164.
3. [Jump up](#) Freedom RM, Culham JAG, Moes CAF (1984). *Angiography of Congenital Heart Disease*. New York: Macmillan Publishing.
4. [Jump up](#) Berg C, Knüppel M, Geipel A, et al. (March 2006). "*Prenatal diagnosis of persistent left superior vena cava and its associated congenital anomalies*". *Ultrasound Obstet Gynecol.* **27** (3): 274–80. doi:10.1002/uog.2704. PMID 16456841.
5. [Jump up](#) Bjerregaard P, Laursen HB (January 1980). "*Persistent left superior vena cava. Incidence, associated congenital heart defects and frontal plane P-wave axis in a paediatric population with congenital heart disease*". *Acta Paediatr Scand.* **69** (1): 105–8. doi:10.1111/j.1651-2227.1980.tb07039.x. PMID 7368902.



*Thank you*