NATIVE VALVE ENDOCARDITIS IN A CHILD WITH PROSTHETIC DEVICE

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HISTORY

- 3 ½ year old, female

- Underwent transcatheter VSD device closure in October 2012

PRESENTING COMPLAINTS

- Fever with no localising symptom - 4 weeks
- Received multiple antibiotics as outpatient

ON EXAMINATION

- Toxic, febrile
- Hemodynamically stable
- CVS – Grade 3/6 PSM in mitral area
- No signs of CCF
- No peripheral signs of IE

INVESTIGATIONS

TC – 16300 , BF 8, P 63, **Platelet - 3.7 L** **Hb – 7.9 gm /dl**	**RFT – N** **Urine microscopy - N**
CRP – 103mg/L	

ECHO

- 7mm vegetation on mitral valve
- Mild MR
- VSD closure device in situ

TREATMENT

- Blood cultures – 3 samples, with in one hour
- Empirical Ceftriaxone, Garamycin

BLOOD CULTURES

- All 3 cultures grew gram negative bacillus (GNB)
- Automated system – presumptive diagnosis of Pseudomonas Fluorescens
- Sensitive to Piperacillin tazobactam/garamycin/cefaperazone sulbactam

- Ceftriaxone stopped
- Started on piperacillin tazobactam
- Garamycin stopped after 1 week

DIAGNOSIS

- Duke's criteria

- 2 major criteria present (2positive blood cultures, positive ECHO finding)

COURSE IN THE HOSPITAL

- Afebrile with in 48hrs of admission

Day 13……..

- Recurrence of fever
- Left hip pain with restriction of movements

- Flexor spasm of left hip
- Left leg perfusion - normal

DIFFERENTIAL DIAGNOSIS

- Septic embolus – septic arthritis
- Arterial thrombosis

REPEAT INVESTIGATIONS

- TC – 13600
- Hb – 9
- Plat – 3 lakhs

- **CRP – 124 mg/L**

- Blood culture – no growth

FURTHER WORKUP

ECHO	• No new vegetations • Decrease in size of previous vegetation
Vascular surgeon	• Doppler normal
Ortho surgeon	• USG Hip normal • MRI Hip – features of fasciitis/myositis

TREATMENT

- Analgesic
- Garamycin added (to cover HACEK)

- Fever settled
- Able to walk with limp

- ECHO - no vegetation, mild to moderate MR

DISCHARGED

- To continue Piperacillin tazobactam for 6 weeks

- To continue Garamycin for 3 weeks

DISCUSSION

NATIVE VALVE ENDOCARDITIS

Main underlying causes of NVE:

- Rheumatic valve disease (30%)
- Congenital heart disease (15%) – PDA, VSD, TOF
- MVP (20%)

ENDOCARDITIS IN CONGENITAL HEART DISEASE

- Incidence is more in CHD with associated anomalies (eg. VSD with AR)
- Staphylococci/streptococci – most common
- Right sided IE more frequent
- 4 – 10% mortality
- Primary prevention vital

COMMON ORGANISMS IN NVE

- *Streptococcus viridans*
- *Staphylococcus*
- *Enterococcus*

PROGNOSIS

- Mortality rate in NVE 16-27%
- Staphylococcus – high mortality

- The occurrence of IE directly after most routine heart surgery is relatively low
- BUT…….
- It can be an antecedent event especially if prosthetic material is utilized%.
- Preventive measures and patient education are of particular importance in this population.

GRAM NEGATIVE ENDOCARDITIS

- HACEK – common

- Non HACEK
- Atleast 6weeks of antibiotics recommended
- +/- early surgery

LITERATURE REVIEW

- Taiwan study – 19 patients – 3 pseudomonas aeruginosa
- Japan article – Pseudomonas cepacia IE in a 3yr old child with COA ass with VSD, MR – required surgery
- PSEUDOMONAS FLUORESCENS – no reports found