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Introduction

We presents a rare case of infective endocarditis in postpartum period at a district general hospital in the West Midlands. The patient presented with sepsis and pyrexia of unknown origin. Due to initial diagnostic uncertainty surrounding the causes of postnatal pyrexia radiological imaging in form of computerised tomography (CT) of the abdomen and pelvis was requested. This highlighted a thrombus and renal infarct, which prompted further investigation in the form of a bedside echocardiogram to confirm the diagnosis of infective endocarditis.

Endocarditis⁽¹⁾

Presenting Signs & Symptoms:

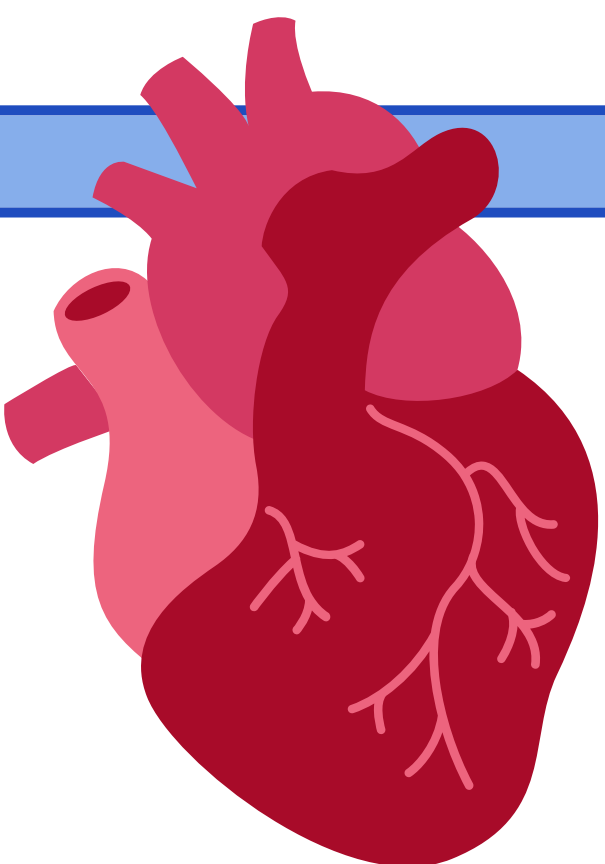
- Fever (90%)
- Systemic symptoms
- Heart murmur (85%)
- Embolic complications

Investigations:

- Blood cultures
- ECHO

Pathophysiology:

- Commonly caused by Streptococcus or Staphylococcus organisms.
- Endothelial damage, platelet and fibrin deposition, vegetation formation as bacteria multiply, pro-inflammatory response, embolisation, destruction of native valve.



Endocarditis & Pregnancy⁽²⁾⁽³⁾

- Incidence of infective endocarditis in pregnancy is low at 0.006%.
- Higher in women with known cardiac disease, a mechanical prosthetic valve, or IV drug users.
- Maternal mortality is high at 33% (heart failure / embolic event).
- Streptococcus agalactiae (GBS) – peripartum causative organism and in the elderly/immunocompromised.
- Future pregnancy after valve replacement – recommend anti-coagulation, risk of valve thrombosis, assessment by ECHO pre-conception and each trimester.

Case Presentation

A 30 year old female, first self presented postnatally to maternity triage following a low risk maternity led birth. She had an uncomplicated delivery, a complete placenta and membranes with a blood loss of 300mls after a second degree tear which was sutured by the midwife. However, she reported feeling unwell and was suffering right hip pain.

She later returned to hospital via ambulance 16 days postnatally with fever, worsening symptoms of general illness and severe right hip pain. Her observations demonstrated pyrexia, hypotension, tachycardia and borderline oxygen saturations of 95% on room air.

Initial examination revealed clear auscultation of the chest, a soft non-distended abdomen and the uterus well contracted. Her calves were bilaterally soft and non-tender, and focal right hip pain with tenderness over right greater and lesser trochanter and coccyx.

The patient had no history of injury, trauma, intravenous drug use, recent dental procedures, no cardiac history either personally or within the family, no history of childhood rheumatic disease.

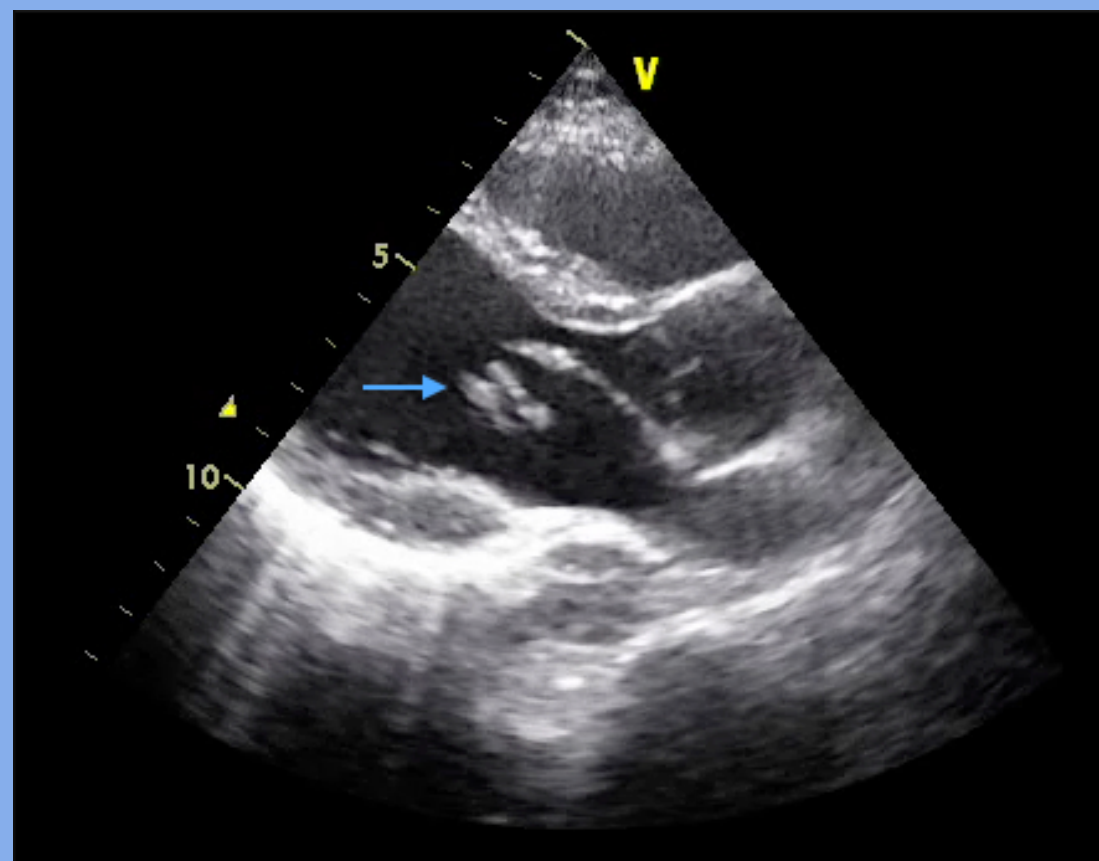


Figure 1: Echocardiogram showing vegetation on posterior leaf of mitral valve
Image taken from BJC ⁽⁴⁾

Management

- Initial prehospital intravenous fluid bolus and paracetamol were administered by paramedics and a septic screen was performed on arrival to hospital. Close monitoring of observations and HDU care provided on labour ward.
- Due to the diagnostic uncertainty at this point and an acute drop in haemoglobin to 80g/L from 140g/L, imaging in the form of computerised tomography (CT) was requested.
- CT of the abdomen and pelvis demonstrated a non occlusive superior mesenteric thrombus, with splenic and right renal infarcts. These findings were discussed with surgical team who recommended a CT angiogram to fully assess this.
- A bedside transthoracic echocardiogram (TTE) revealed a large mobile mass on posterior leaf of mitral valve, with associated mitral regurgitation. (Similar ECHO finding demonstrated in Figure 1)
- Intravenous antibiotic treatment initiated with local antimicrobial policy and microbiologist advice of Amoxicillin and Gentamicin.
- Blood cultures grew Streptococcus agalactiae (GBS).
- A pelvic MRI was performed to further investigate the hip pain which demonstrated a loculated collection in the right iliopsoas adjacent to the right sacroiliac joint with bone marrow oedema suggestive of infected collection. The patient was transferred initially to the local CCU before definitive management with mitral valve replacement at the regional cardiothoracic unit.

Reflection



This was an unusual case where the diagnosis of infective endocarditis was least expected by clinicians and the patient. Having a high index of suspicion for alternative diagnoses when investigating for causes of sepsis in the puerperium can help reduce maternal morbidity and mortality.

Whilst awaiting the CT angiogram, performing a bedside Echocardiogram helped facilitate the diagnosis and allow local teams to liaise with regional cardiothoracic unit. This rare and interesting case of infective endocarditis demonstrates that good multidisciplinary team working and communication with regional maternal medicine network helps improve patient care and prevent long term morbidity.

Conclusion

A multidisciplinary team approach to assessment, investigation and management of this patient helped with early diagnosis and transfer to the regional cardiothoracic unit for definitive mitral valve replacement.

High index of suspicion for alternate causes of pyrexia in postnatal period, to help reduce maternal morbidity and mortality.

References

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