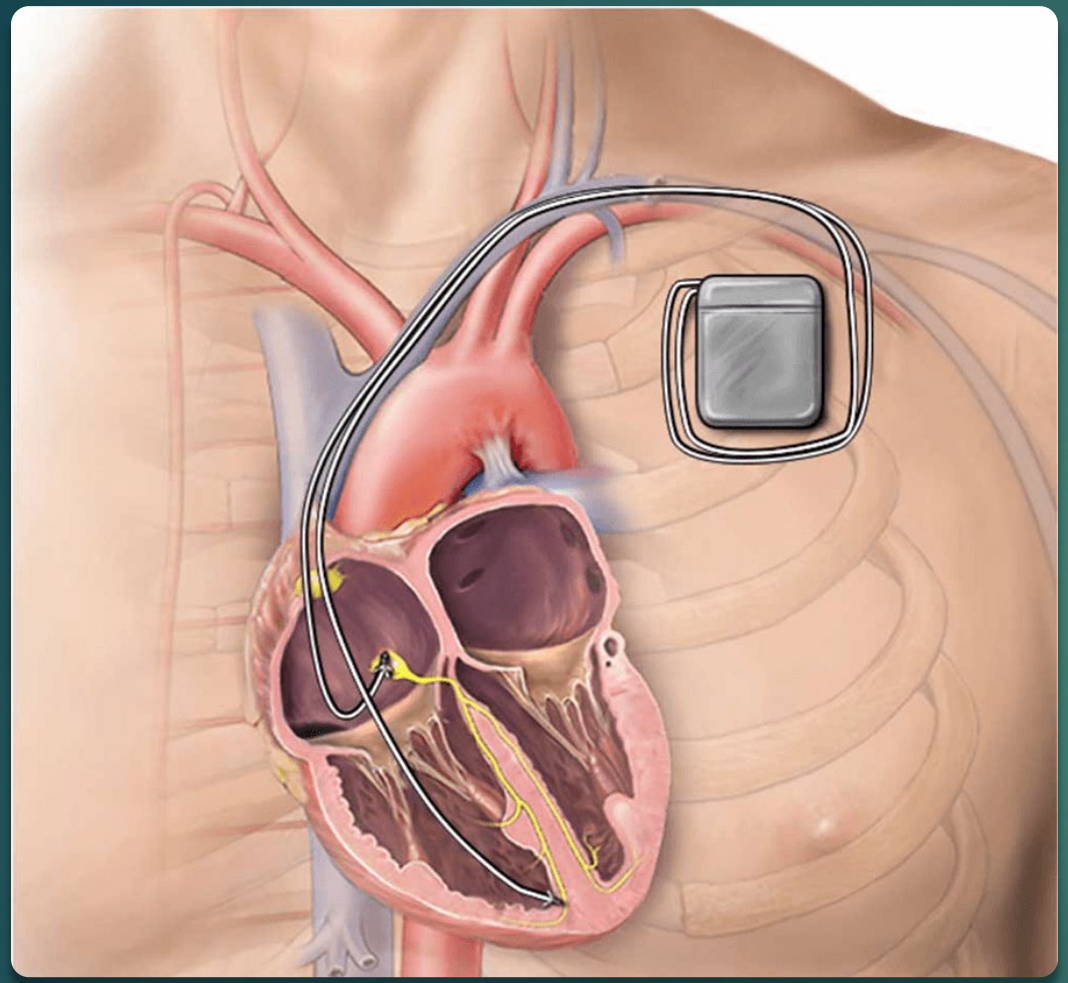

Pacemaker Lead Endocarditis

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Background

- Pacemaker lead endocarditis is a rare but serious complication that can lead to significant morbidity and mortality.
- It is characterized by persistent bacteremia originating from an infected lead or associated endocardial structures.
- In this report, we will be going over a case of a 65-year-old female with multiple comorbidities who developed endocarditis on her implanted cardioverter-defibrillator lead.

Case presentation

The patient is a 65-year-old female with a significant medical history, including coronary artery disease status post five-vessel coronary artery bypass grafting in 2016, chronic heart failure with reduced ejection fraction (HFrEF), end-stage renal disease on hemodialysis, diabetes, hypertension, hyperlipidemia, and a left above-knee amputation due to chronic osteomyelitis, was admitted for persistent bacteremia and suspected endocarditis.

The patient had received a Medtronic single-chamber ICD in 2007 for primary prevention. In June, she was hospitalized for Gram-positive cocci bacteremia, managed with vancomycin, and underwent removal of her tunneled dialysis catheter. A transesophageal echocardiogram (TEE) on June 21 revealed no definitive valvular vegetations but noted moderate tricuspid regurgitation associated with the ICD lead, and minimal fibrinous stranding without definitive vegetations.

Due to negative blood cultures following dialysis catheter removal, a conservative approach was adopted, entailing a 6-week course of antibiotics and serial blood cultures. On August 10, outpatient blood cultures revealed the presence of Staphylococcus epidermidis, prompting an extension of vancomycin therapy through August 24.

Clinical Deterioration

On August 20, the patient was readmitted with complaints of fatigue and shortness of breath persisting for several days. Blood cultures drawn on admission returned positive for Gram-positive cocci, specifically Staphylococcus epidermidis. An echocardiogram performed on August 23 showed an ejection fraction of 45% with suboptimal imaging for endocarditis assessment.

A follow-up TEE was performed August 28th which identified a 0.5 x 0.5 cm mobile mass on the right ventricular lead, consistent with endocarditis, and raised concerns regarding possible subacute endocarditis of the mitral valve. A cardiology consultation was conducted, and the decision was made to transfer the patient for potential device extraction.

Discussion

The patient's clinical condition was markedly frail, and she had previously established a do-not-resuscitate/do-not-intubate status.

Given her extensive comorbidities and the complexity of the potential extraction procedure, there was significant concern about her ability to survive such an intervention.

After discussions with the patient, her family, and the healthcare team, it was agreed to pursue a conservative management strategy with the involvement of infectious disease specialists and palliative care services.

Conclusion

- This case underscores the complexities of managing pacemaker lead endocarditis in patients with significant comorbidities. It highlights the importance of a multidisciplinary approach in decision-making, particularly when considering the balance between aggressive interventions and palliative care in frail patients. Further research is necessary to establish optimal management protocols and improve outcomes in this vulnerable patient population.