

Enigmatic Endocarditis: Deciphering *Streptococcus Sanguinis*' stealthy assault

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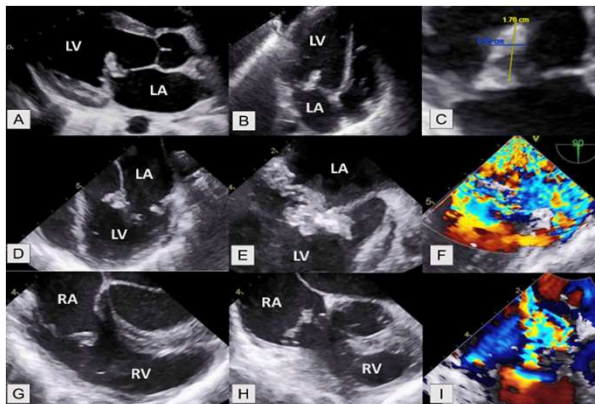
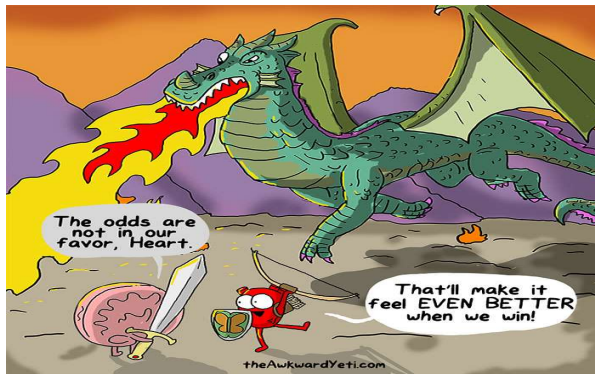


Figure 1. Transthoracic and transoesophageal echocardiogram view of MV and TV vegetations. (A) parasternal long-axis view revealing large MV vegetation; (B) apical four-chamber view; (C) zoomed in on vegetation measuring 9.5 x 17.6 mm; (D) mid-oesophageal four-chamber view of large MV vegetation; (E) zoomed in on MV in end-diastole; (F) severe mitral regurgitation on colour doppler; (G) mid-oesophageal right ventricle inflow-outflow view of TV vegetation in mid-diastole; (H) TV vegetation in mid-systole; (I) severe tricuspid regurgitation on colour doppler. MV: mitral valve, TV: tricuspid valve, LA: left atrium, LV: left ventricle, RA: right atrium, RV: right ventricle.



Figure 2. Computed tomographic angiography of the abdomen and pelvis revealing left internal iliac pseudoaneurysm rupture and haemorrhage into left psoas muscle (yellow arrowhead): (J) axial view; (K) coronal view; (L) 3D reconstruction of the left internal iliac pseudoaneurysm.



Figure 3. Computed tomography scan of the head with contrast demonstrating enlarging left middle cerebral artery cortical branch aneurysm (yellow arrowhead): (M) axial view; (N) coronal view.

INTRODUCTION

- ❖ Iron deficiency impacts 15-25% of young women, rising to 40% in those with weight loss due to eating disorders during menstruation.
- ❖ This often goes unnoticed by clinicians, potentially resulting in severe consequences.
- ❖ *Streptococcus sanguinis*, a type of bacteria found abundantly in the mouth, is a significant contributor to infective endocarditis, the second most common cause of the condition.
- ❖ Though typically harmless, when introduced into the bloodstream through everyday activities like brushing, it can lead to infective endocarditis.

CASE PRESENTATION

- ❖ Female, 19 y/o presented with refractory symptomatic iron-deficiency anaemia (IDA).
- ❖ **Symptoms:** debilitating fatigue, anorexia, weight loss, menorrhagia over four months.
- ❖ **Initial diagnosis:** anorexia nervosa and IDA; haemoglobin: 10.0g/dL, transferrin: 2.0g/L, transferrin saturation: 10.0%.
- ❖ Despite three months of aggressive oral iron supplementation and nutritional rehabilitation, anaemia worsened (haemoglobin: 5.8g/dL).
- ❖ **On admission:** fever (38.0°C), tachycardia (145 bpm), stable blood pressure (133/86 mmHg).
- ❖ **Clinical findings:** bilateral digital clubbing, systolic murmur.
- ❖ **Laboratory analysis confirmation:** persistent IDA (haemoglobin: 6.4g/dL), elevated inflammatory markers (WBC: 19.1 x 10⁹/L, CRP: 104mg/dL), and bacteraemia with *Streptococcus sanguinis*.
- ❖ **Subsequent echocardiograms:** confirmed mitral valve vegetations, diagnosing infective endocarditis (IE).

CASE CONTINUED

- ❖ Despite immediate IV antibiotic therapy, condition worsened with multiple complications:
 - Ruptured left common iliac artery aneurysm
 - Active haemorrhage into left psoas muscle
 - Splenic infarction
 - Abscess formation
- ❖ Emergency laparotomy performed, followed by urgent mechanical mitral valve replacement and tricuspid valve repair.
- ❖ Post-op, cerebral artery cortical branch aneurysm emerged, requiring prompt neurosurgical intervention.
- ❖ Additional challenges included enlarging splenic abscesses and arterial aneurysms in hepatic lobe and common femoral artery.
- ❖ Managed with multidisciplinary approach including interventional radiology-guided embolization and surgical repair.
- ❖ Discharged after 81-day hospital stay with continuous IV antibiotics, transitioning to oral therapy as outpatient.
- ❖ Complete resolution confirmed by surveillance imaging.

LEARNING POINTS

- ❖ Thorough investigations are crucial in young women with iron deficiency anemia, menorrhagia, and suspected eating disorders to exclude other potential causes and prevent complications.
- ❖ *Streptococcus sanguinis*, previously considered low-risk in infective endocarditis, can lead to severe mycotic aneurysms via septic embolism.
- ❖ Multimodal imaging and team collaboration are vital for evaluating and managing the varied peripheral lesions in infective endocarditis.

