Gas-forming purulent pericardial effusion

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A previously healthy 45-year-old woman presented with cardiac tamponade secondary to a gas-forming purulent pericardial effusion. Eight days previously, she presented to hospital with a pericardial effusion. A subxiphoid diagnostic pericardiocentesis yielded a clear straw-coloured fluid. Cultures grew group F streptococci and alpha-hemolytic streptococci, which are associated with normal oral flora. The patient's condition worsened with increasing respiratory distress and hemodynamic instability. She was transferred to a cardiac centre, where she was diagnosed with cardiac tamponade. A chest x-ray revealed a tension pneumopericardium (Figure 1). A large air pocket (white arrows) and a clearly defined air-fluid level (black arrows) were seen on this image. Emergent diagnostic and therapeutic pericardiocentesis revealed 560 mL of purulent fluid growing *Prevotella*, *Bacteroides*, *Streptococcus milleri* and *Streptococcus viridans*. Both the bacteroides and anaerobic streptococci are causes of gas-forming infections.

Bacterial pericardial effusions are primarily a complication of an infectious focus originating elsewhere in the body, arising by direct spread or hematogenous dissemination. A total of 26% to 47% of patients have an underlying systemic disease process such as rheumatoid arthritis or autoimmune pericarditis, creating a pericardial

effusion that may become secondarily infected (1). In the present case, after extensive imaging and autoimmune investigations, no source of infection or concurrent disease was found. Bacterial purulent pericarditis is a rare diagnosis with a mortality rate of up to 100% if not diagnosed and treated emergently (2). Treatment with antibiotics and surgical drainage is integral to allow for a full recovery. The present patient responded promptly after appropriate antibiotics and surgical pericardial window, with dehiscence of adhesions. It can only be speculated how these specific bacteria invaded the pericardial space and it is postulated that equipment contamination or passage of the first pericardiocentesis needle through the bowel were potential sources.

REFERENCES

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Figure 1

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