Introduction

- Left ventricular assist devices (LVAD) usually provide limited flow reserve to respond to exercise and pathological hemodynamic states.
- Interaction of adverse hemodynamic events may precipitate right ventricular and LVAD dysfunction.

Case

- A 67-year-old male with known non-ischemic DCM presented with gastrointestinal symptoms and worsening exercise tolerance. Echo confirmed biventricular heart failure (LVEF 15%).
- Optimized medical therapy and mechanical circulatory support (Impella®) led to successful compensation, and a cardiac resynchronization device (CRT-D) was inserted.
- Three days after CRT-D insertion the patient became febrile. Blood cultures were positive for Listeria monocytogenes, but became negative during a 2-wk course of amoxicillin. The patient recovered and was discharged home after 17 days.
- Readmission became necessary after 18 days due to persistent arrhythmia and worsening LV function (LVEF 10%). A LVAD (HeartMate III) was implanted.

Discussion

- Both pericardial tamponade and infection (22%) are common postoperative complications after LVAD implantation. Nearly 50% of LVAD infections are associated with bloodstream infection, which increases risks of stroke and mortality. 1,2
- Listeria sepsis in an LVAD patient has not been reported to our knowledge. Since Listeria had been cultured from the patient’s blood prior to LVAD implantation, postoperative reactivation appears likely. The ability of these foodborne bacteria to invade cells could have helped it evade the patient’s immune system.
- A vicious circle was initiated by sepsis-associated hypovolemia, low afterload and pericardial tamponade, while suboptimal angulation of LVAD inflow cannula occurred due to changing LV morphology, impeding LVAD function. 3,4

References