[SCA-22] Rare case of multi-chambered Cunninghamella endocarditis

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Introduction
Cunninghamella species are rare opportunistic pathogens seen in immunocompromised patients. We present the unusual case of a bone marrow transplant (BMT) recipient who developed multi-chambered endocarditis with Cunninghamella.

Case Report
A 60-year-old woman with allogeneic BMT for myelodysplastic syndrome, graft-versus-host disease, history of repeated blood and platelet transfusions for pancytopenia, and iron overload was admitted for fever. During her hospital stay, acute onset chest pain with elevated troponins led to the diagnosis of acute coronary syndrome. Lack of significant coronary stenosis on cardiac catheterization and a large mass within the left ventricular (LV) cavity with regional wall motion abnormalities on TTE suggested coronary embolism.

Intraoperative TEE during emergent sternotomy revealed a large obstructive mass in the left ventricular outflow tract (LVOT). Multiple mobile masses not present 24 hours earlier were also removed from the right ventricle. Following atriotomy closures, TEE revealed persistence of LVOT mass necessitating aortotomy for complete debridement. Immediate pathological evaluation revealed necrotic debris, inflammation and fungal hyphae. Later cultures grew Cunninghamella species. After transfer to ICU on high doses of vasopressors, inotropes, and intra-aortic balloon pump, the patient continued bleeding and multiple components of blood products administered. The patient went into cardiac arrest and died within 3 hours in the ICU.

Discussion
Incidence of opportunistic fungal infection among immunocompromised patients has increased over 20 years. Risk factors include hematological malignancies and deferoxamine therapy as in our case. Though extremely rare, Cunninghamella endocarditis is becoming more common after BMT. Appearance of a new mass and growing LV mass indicate the fastidious nature of the fungi. In our case TEE proved invaluable in diagnosing LVOT obstruction and guiding mass removal. Reports indicate that infection by this fungus is generally devastating and high index of suspicion, early aggressive treatment including systemic antifungal and surgical debridement of affected tissue are warranted.

References
LVOT mass