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Case report (includes case series that include 5 or fewer patients)

Title: Unveiling Severe Valvular Stenosis Caused by Bioprosthetic Aortic Valve Vegetation

Description: We describe an uncommon scenario where a patient with a complicated medical history developed significant obstructive narrowing of a bioprosthetic aortic valve due to the presence of vegetation. Aortic valve vegetation causing obstructive valvular stenosis without significant regurgitation is an exceedingly rare condition with limited literature.

Unveiling Severe Valvular Stenosis Caused by Bioprosthetic Aortic Valve Vegetation

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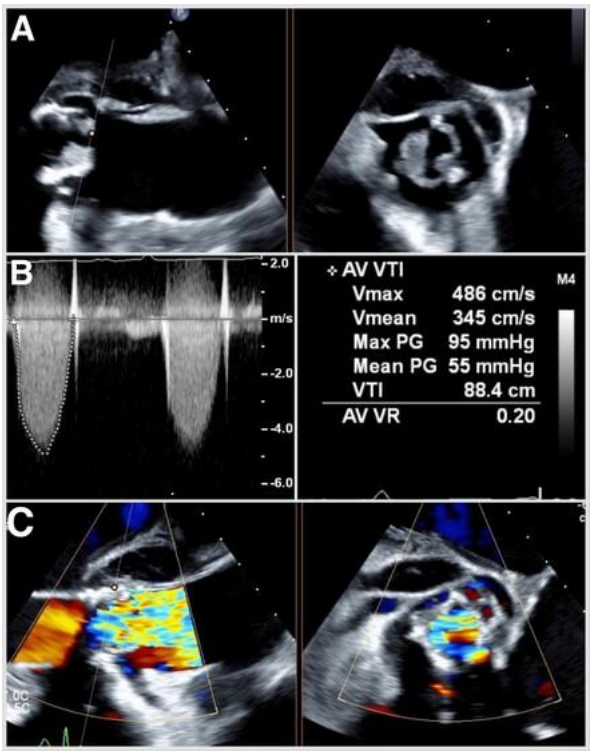
Background: We present a rare case of severe obstructive valvular stenosis caused by bioprosthetic aortic valve vegetation in a patient with a complex medical history.

Case: 47-year-old male with a history of hypertensive kidney disease, end-stage renal disease (ESRD) on hemodialysis, and multiple comorbidities who presented to the emergency department (ED) with acute right groin pain and persistent left-sided chest pain. The patient developed respiratory distress, necessitating oxygen support. Notably, 2 years earlier he had undergone aortic valve replacement following endocarditis resulting from a dialysis catheter infection. Diagnostic workup revealed elevated troponins and ST depression on electrocardiogram (EKG). CT angiography revealed acute occlusion of the right distal common femoral artery and right superficial femoral artery. Subsequent transthoracic and transesophageal echocardiography demonstrated significant obstructive stenosis (peak aortic velocity 4.9 meters/second) caused by two large vegetations (20 x 9 mm and 6 x 5 mm) located on the left and right coronary cusps of the bioprosthetic aortic valve along with a suspicious echo-free space indicative of a possible abscess formation (Figure-1).

Decision Making: The patient underwent a right femoral cut-down and thrombectomy to address the arterial occlusion. Two weeks later, a redo sternotomy was performed, followed by a mechanical aortic valved conduit root replacement with coronary reconstruction (Button Bentall procedure). Following an extensive hospital course, the patient was eventually discharged. His arterial occlusion and myocardial infarction were thought to be from embolic phenomena.

Conclusions: Aortic valve vegetation causing obstructive valvular stenosis without significant regurgitation is an exceedingly rare condition with limited literature. However, prompt recognition and intervention are crucial for appropriate management.


A
B
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m/s
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Vmax 486 cm/s
Vmean 345 cm/s
Max PG 95 mmHg
Mean PG 55 mmHg
VTI 88.4 cm
AV VR 0.20
M4
C