

#108 Robert Beale

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Transcatheter Aortic Valve Replacement of a Bicuspid Aortic Valve in a Heart Transplant Recipient

ABSTRACT

Recipients of transplanted hearts are subject to a slew of complications which may include common valvular diseases. Those with severe aortic stenosis may be deemed high-risk surgical candidates due to immunosuppression and multiple comorbid conditions. Appropriately selected patients may be successfully treated with transcatheter aortic valve replacement (TAVR).

Our Patient is a 45-year-old male with prior orthotopic heart transplantation in 1997 presented 22 years later with progressive dyspnea on exertion with a known bicuspid aortic valve in his transplanted heart. On presentation, he was afebrile, his blood pressure was 150/90 mm Hg, heart rate was 95 beats/min, and had an O₂ Saturation of 95% on room air

Physical examination was significant for mildly elevated neck veins, clear lungs, a 3/6 systolic murmur at the right upper sternal border with radiation to the neck and 1 + lower extremity edema.

Chest radiographs showed no lung infiltrates, ECG shows sinus rhythm, first-degree AV block, Right Bundle Branch Block and Left Anterior Fascicular Block. An echocardiogram preserved left ventricular systolic function with apical hypo kinesis and severe aortic stenosis (AS) with a peak velocity across the valve of 4.7 m/s and a mean gradient of 52 mm Hg

Management included Left heart catheterization revealed an 80% stenosis in the mid portion of the left anterior descending artery, which was treated with one drug-eluting stent. The lesion was focal, consistent with coronary artery disease and was deemed significant enough and was fixed in preparation for valve intervention. After a heart team discussion, he was deemed high risk for surgical valve replacement due to prior heart transplantation, ESRD, and immunosuppression with a calculated Society of Thoracic Surgery risk score of 12.9%.

The patient ultimately underwent successful placement of a balloon-expandable transcatheter valve via a femoral access.

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