



PALLIATIVE CARE CASE OF THE MONTH

“Aortic Stenosis, TAVR, and the Potential Role of Palliative Care”

by

Dillon Stein, DO, Lisa Doverspike, PAC and Kathy Selvaggi, MD

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Case: Mr. S is a 90-year-old male with coronary artery disease and severe aortic stenosis admitted acutely for a syncopal episode. He has been followed closely by his cardiologist, and is under evaluation for potential aortic valve replacement. Due to the patient’s underlying comorbidities, age, and functional status he was considered too high risk for a surgical aortic valve replacement (SAVR). He was offered transcatheter aortic valve replacement (TAVR) as a potential alternative approach. The palliative care team was asked to help navigate a goals-of-care discussion regarding his aortic stenosis and potential aortic valve replacement.

Clinical Question(s): How is TAVR changing the approach to severe aortic stenosis? What clinical information is important for this procedure? And what role does palliative care have in navigating this topic?

Discussion: The Good News and the Bad News

With the aging population, it is expected that diseases of the elderly will become more prevalent in the field of medicine. Aortic stenosis is one of those diseases. The incidence of aortic stenosis increases with age, and the prevalence has been noted to reach nearly 10% in individuals 80 years and older.^{1,2} Patients with severe aortic stenosis have symptoms including angina, syncope, and heart failure. The development of these symptoms portend a poor prognosis and increasing risk of cardiac death. A study published in 2015, found at 3 and 5-year follow up, patients treated with medical management showed over 70% and 80% all-cause mortality respectively; a significant difference compared to the 5-year all-cause mortality in patients that underwent either surgical or transcatheter aortic valve replacement (37% and 43% respectively).³

Prior to the innovation of transcatheter aortic valve replacement, the gold standard for treating patients with severe aortic stenosis was surgery. The burden of this procedure left many patients unable to proceed with the replacement due to their high risk surgical status and comorbidities. TAVR has been identified as a non-inferior and effective alternative for patients that are too high risk to tolerate the surgical approach and have an expected life expectancy of over 1 year.⁴

The terminal nature and symptom burden of aortic stenosis has led to an emphasis on palliative care issues. While there is clear benefit with TAVR in high risk patients with severe aortic stenosis, an understanding of the potential adverse events related to TAVR is necessary to help navigate discussions regarding goals of care and advance care planning, whether explored by the primary care physician, cardiology team, or a palliative care specialist.

Important complications (and their prevalence) related to the TAVR include:

- Post-operative Acute Kidney Injury (20-28%; with up to 3% requiring renal replacement therapy)^{5,6}
- Major Stroke within 30 days (4.8%) and within 1 year (8.4%)⁷
- Permanent Pacemaker Placement (13.9%)⁵
- Major Bleeding (>22%)⁵
- Vascular complications, such as aortic dissection/rupture, arterial entry site dissection/rupture, and hematoma/pseudoaneurysm development (11.9%)⁵
- Myocardial infarction (1.1%)⁵

The Current Role of Specialist Palliative Care in TAVR

How best to integrate cardiologists, primary care clinicians and palliative care specialists for those patients with complex comorbidities, symptom burden, and goals-of-care discussions is still in flux. Most cardiologist caring for TAVR patients find their knowledge regarding palliative care is experiential, rather than through standardized educational means. Additionally, only a small number of those cardiologists felt their palliative care knowledge was “extensive”. For this reason, a knowledge gap likely exists; however, surveys have highlighted cardiology’s desire to learn more about the palliative care approach and subspecialty.⁸

Some TAVR programs are beginning to integrate palliative care specialists directly into the evaluation process to promote goals of care discussions early in the pathway. However, the 2017 ACC Expert Consensus Decision Pathway for TAVR mentions palliative care input when the procedure is not indicated due to risks outweighing benefit. In these cases, the specialist would presumably talk about non-TAVR, symptom-based approaches. While primary physicians and cardiologists should initiate medical treatment and goals-of-care discussions with patients, specialist palliative care clinicians can help with more complex decisions as well as difficult symptoms.

Resolution of the Case: Four weeks following initial palliative care consultation in the hospital, Mr. S underwent a TAVR via a femoral approach. He had no complications perioperatively and continues to follow with the valve clinic routinely.

References:

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- 2.) Nkomo VT, Gardin JM, Skelton TN, et al. Burden of valvular heart diseases: a population study. *Lancet*. 2006 Sep 16;368(9540):1005-11.

Personal details in the case published have been altered to protect patient privacy.

For palliative care consultations please contact the Supportive and Palliative Care programs at PUH/MUH, 647-7243, pager # 8511, *Shadyside*, 647-7243, pager # 8513, *Perioperative/Trauma Pain*, 647-7243, pager # 7246, *UPCI Cancer Pain Service*, pager 644-1724, *Interventional Pain* 784-4000, *Magee Women’s Hospital*, pager 412-647-7243 pager # 8510, *VA Palliative Care Program*, 688-6178, pager # 296. *Hillman Outpatient*: 412-692-4724. For ethics consultations at *UPMC Presbyterian-Montefiore* and *Children’s* pager 958-3844.

With comments about “Case of the Month” call Dr. Robert Arnold at (412) 692-4834.



References Continued

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- 5.) Genereux P, Head SJ, Van Mieghem NM, et al. Clinical Outcomes After Transcatheter Aortic Valve Replacement Using Valve Academic Research Consortium Definitions: A Weighted Meta-Analysis of 3,519 Patients From 16 Studies. *JACC*. 2012 June; Volume 59, Issue 25:2317-2326
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- 8.) Alpert C, Hummel E, Hummel S, et al. Mind the Gap: Palliative care knowledge among cardiovascular clinicians. *JACC*. 2016 April; Volume 67, Issue 13.

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