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It's All About Patient Identification

Announcer:
Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Jain:
This is CME on ReachMD and I'm Dr. Renuka Jain. I'm going to review the latest information on ways to identify patients with low-flow, low-gradient aortic stenosis. Let's dive right in.

Classically, aortic stenosis is a high-flow, high-gradient state, a mean gradient of greater than 40 and an aortic valve area of less than 1.0, which is the diagnosis of severe AS. There are patients, however, who get missed, who don't fit into that classic box of high-flow, high-gradient AS. The gold standard for diagnosing AS is an echocardiogram, and cardiac sonographers are the first line in our diagnosis of aortic stenosis.

There are three measurements that we use to understand and calculate an aortic valve area, LVOT VTI, aortic valve VTI, and LVOT diameter. These three measurements taken from echocardiograms will allow us to calculate an aortic valve area and make the diagnosis of severe aortic stenosis. It is important to use multiple views to ensure that we have the highest LVOT velocity and aortic valve velocity, and particularly, for aortic stenosis, it's important to use multiple views for assessing aortic valve velocity – apical 3 views, apical 5 views, apical views from other positions, and also, the right sternal border view, which is a nontraditional ECHO view but in 20 to 30% of cases, will allow for measurement of the highest aortic valve velocity.

Finally, in aortic stenosis, the quality of the AS signal can be enhanced by using the non-imaging transducer. The small footprint of this transducer often means that the highest aortic valve velocity can be obtained using what we call the Pedoff Transducer, or non-imaging probe.

Low-flow, low-gradient states are characterized by mean gradients of less than 40, oftentimes ejection fractions of less than 30%, and an aortic valve area that still calculates out as severe. There are two categories of low-flow, low-gradient states. The first is low-flow, low-gradient with severe LV dysfunction, an LV ejection fraction of less than 30%, and the second is a low-flow, low-gradient state with paradoxically normal LV ejection fraction.

Low-flow, low-gradient states are often seen in elderly women, in patients with atrial fibrillation, coronary artery disease, or other comorbidities. Although ECHO is the gold standard for assessment of aortic stenosis, it is often complemented by cardiac CT.

The important thing with low-flow, low-gradient states is we don't want to miss them because they all benefit from aortic valve replacement. The key takeaway is that if you make the appropriate diagnosis in the ECHO lab, these patients all benefit from transcatheter aortic valve replacement, or surgical aortic valve replacement. So, all of the subtypes of aortic stenosis will benefit from aortic valve replacement. The other key takeaway is that, although ECHO is the gold standard for assessment of aortic stenosis, it is complemented by cardiac CT.

Well, this was a brief review of low-flow, low-gradient states, but I'm glad I had the opportunity to share this data with you. Unfortunately,

our time is up. Thank you so much for listening.

Announcer:
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