



# Radial Artery Collapse with Severe Aortic Insufficiency

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## Clinical Image Description

The brief video clip demonstrates the collapse of the radial artery in diastole due to severe aortic insufficiency.

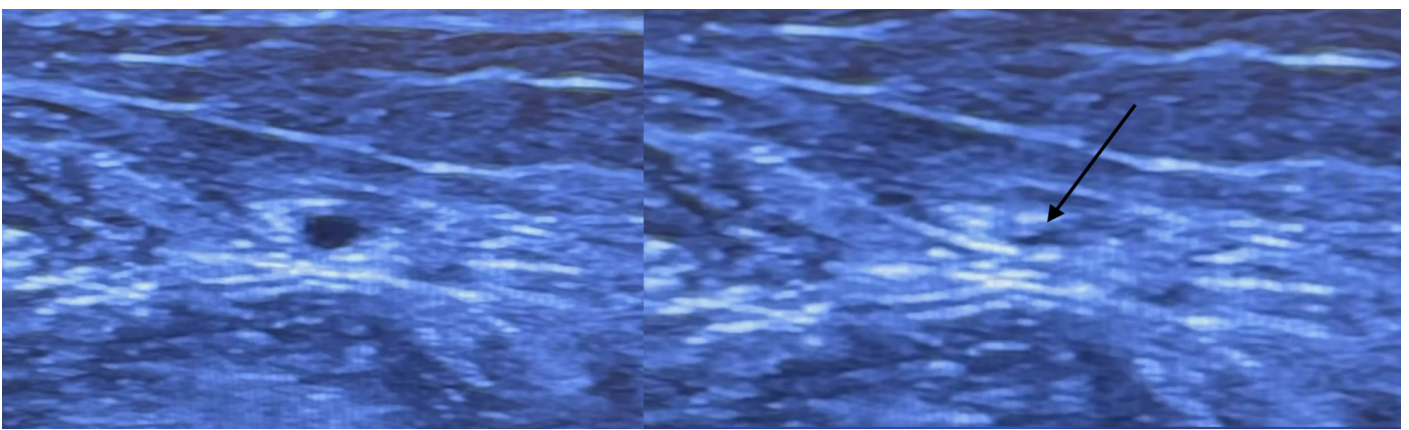
Aortic insufficiency is a form of valvular heart disease in which the integrity of the aortic valve is compromised leading to insufficient closure of the valve leaflets. This leads to retrograde blood flow from the aorta back into the left ventricle during diastole. A normal aortic valve is comprised of three leaflets attached to the aortic wall. During systole, the leaflets open allowing anterograde flow into the aorta. During diastole, the leaflets come together effectively closing off the left ventricle so that blood continues to move forward through the aorta to perfuse the body. In aortic insufficiency, aortic leaflet abnormalities cause mal-coaptation, leading to retrograde blood flow. As

this regurgitation becomes more severe, there is an increased left ventricular stroke volume, resulting in higher systolic pressures, while the rapid blood flow from the aorta back into the left ventricle during diastole leads to lower diastolic pressures. This creates a widened pulse pressure. In some cases, the diastolic blood pressure can become so low that it can lead to the collapse of smaller arteries during diastole (see supplemental digital content 1, 2, and 3 which shows an open radial artery followed by complete collapse of the same artery during diastole).

Treatment for severe and/or symptomatic aortic insufficiency is replacement of the damaged valve with either a tissue or mechanical valve. In some patients, transcatheter aortic valve replacement is a viable option. In other patients, open surgical replacement is necessary.



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**Reference**

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