Singing the “Hole” Song - Pulsating Right Jugular Vein and Liver Due to a Severe Gerbode Defect

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Clinical Video

*Clinical video related to this article can be found online at: Link will be available on March 10, 2021.

A 26-year-old male with no significant past medical history presented with five days of fever and chest pain. He was found to have Methicillin-sensitive staph aureus (MSSA) bacteremia stemming from aortic valve infective endocarditis with an aortic root abscess. Echocardiogram revealed moderate to severe aortic insufficiency and a Ventricular Septal Defect (VSD). He was taken to surgery for repair of this VSD. During surgery, the VSD was found to be communicating from the Left Ventricular Outflow Tract (LVOT) to the Right Atrium (RA). This rare occurrence of left-to-right shunt from LV to RA is known as the gerbode defect [1]. He underwent successful surgical repair of VSD with an autologous pericardial patch along with debridement and reconstruction of aortic annulus as well as aortic root replacement. Ten days later, the patient was readmitted to the hospital with shortness of breath and a “pounding” sensation in his heart and neck. Transesophageal echocardiogram showed worsening of the gerbode defect with dehiscence of the previous pericardial patch repair. Video 1 shows a unilateral pulsating right jugular vein. Pulsation is not as prominent on the left side as it is on the right side because these pulsations are reflective of the left ventricular pressure that is directly transmitted to the right atrium via the gerbode defect and up into the right jugular vein.

The patient also developed Right Upper Quadrant (RUQ) pain that was thought to be due to liver engorgement from severe left-to-right shunt causing elevated pressures on the right side. Video 2 shows a pulsating liver. Upon closer inspection, it will be noted that the black object taped to the RUQ has a pulsating motion. The pulsatile liver was more appreciable upon palpation than on visual assessment. We did our best to capture this rare physical exam finding by using an object. This liver engorgement and pulsation is reflective of congestive hepatopathy from right heart failure caused by severe left-to-right shunt.
The young man underwent a second successful repair of the gerbode defect. This time, with a bovine pericardial patch along with aortic valve and root replacement. Post operatively, these physical exam findings had resolved.

REFERENCES