Introduction:

- Gerbode defect is defined as an abnormal connection between the left ventricle and the right atrium.
- The pathophysiology of Gerbode defect is a deficiency of the membranous septum separating the left ventricle (LV) from the right atrium (RA), resulting in an LV-to-RA shunt.
- Gerbode defects are classified according to their position in relation to the tricuspid valve (TV): supravalvular (direct) Gerbode defects and infravalvular (indirect) Gerbode defects.

Hospital Course:

- 34-year-old female with a history of mitral valve replacement with porcine prosthetic valve seven years prior due to severe mitral regurgitation who presented to the Emergency Department with two days of new-onset palpitations, fatigue, shortness of breath, nausea, and vomiting.
- Electrocardiogram collected in the ED showed normal sinus rhythm (Figure 1).
- The etiology of her clinical presentation was discovered to be due to severe prosthetic mitral valve regurgitation (Figure 2).
- The patient underwent redo sternotomy, mitral valve replacement with a bioprosthetic valve, intra-aortic balloon pump (IABP) placement and sternal plates.
- Initial post-operative transthoracic echocardiogram (TTE) showed functioning bioprosthetic mitral valve and severe tricuspid valve (TV) regurgitation.
- Two additional TTEs spaced one week apart showed no changes.
- Transesophageal echocardiogram (TEE) showed a new shunt between the LV and RA consistent with a supravalvular Gerbode defect (Figure 3).
- This finding was later confirmed with ventriculogram.

Discussion:

- Gerbode defects were initially described as rare congenital findings.
- Iatrogenic causes of Gerbode defects are increasingly being recognized.
- In our case, a patient with a complex cardiac history of two open, bioprosthetic mitral valve surgeries, was found to have a supravalvular Gerbode defect following the patient’s second surgery.
- Interestingly, the Gerbode defect eluded detection on multiple TTEs until a TEE was performed.
- This case highlights that a high index of suspicion needs to be maintained to detect these emerging iatrogenic VSDs.

References: