Background: Cor Triatriatum Sinister (CTS) is a rare anomaly accounting for only 0.1 to 0.4% of all congenital heart diseases. It is characterized by a thin fibromuscular septum dividing the left atrium into two chambers. Mostly it presents as symptomatic heart failure in early childhood but can rarely present as incidental finding in asymptomatic adults. If incidenditally noted, it is important to assess for obstruction and differentiate CTS from supravalvular mitral ring.

Case Presentation: 66-year-old female presented with complaints of worsening left hip pain secondary to an infected hematoma after a recent total left hip replacement surgery and with bacteremia. Transthoracic echocardiogram revealed small vegetations on the aortic valve. Further imaging with transesophageal echocardiogram revealed small vegetations on the anterior mitral valve and an incidental left atrial membrane consistent with Cor triatriatum with no significant flow obstruction on Doppler. A plan was devised to treat the patient with intravenous Cephazolin for 6 weeks and repeat echocardiogram after 2 months.

Conclusion: CTS is a rare anomaly and it is important to properly identify this structure and evaluate for any obstruction by Doppler assessement. This case higlights the echocardiographic appearance of CTS, as many readers may not have seen this in clinical practice. Transesophageal echocardiography is the imaging modality of choice as it can accurately delineate the membrane morphology and differentiate CTS from supravalvular mitral ring based on membrane location and proximity of left atrial appendage. Management is usually supportive, however surgical correction is indicated in symptomatic patients with obstruction.