

A Rodential Reckoning: *Streptobacillus moniliformis* Endocarditis of the Native Mitral Valve after a Rat Bite

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Clinical Vignettes

Introduction: The diagnosis of endocarditis is often challenging. A high index of clinical suspicion is essential to halt progression and treat underlying infection. Endocarditis is a rare complication of Rat Bite Fever (with only 35 cases reported between 1915 and 2021) caused by *Streptobacillus moniliformis*.

Case Report: A 75 year-old female with hypertension presented from home with subjective fevers after being bitten by a pet rat a few weeks prior. History was unremarkable for drug use or chronic cardiac conditions. Her vitals on admission were unremarkable. Physical exam on admission revealed a systolic 2+ high-pitched murmur on the left fifth intercostal space on the midclavicular line. A small well healed wound was noted on her right finger. Her labs revealed mild leukocytosis and mild troponin elevation. Transthoracic echocardiogram on admission was unremarkable. On day three of hospitalization, she was found to have a new onset verbal aphasia. CT imaging and angiography of the head and neck later performed were unremarkable. Patient was also seen to spike a fever later in the day after which blood cultures were drawn. A brain MRI that was later performed demonstrated acute infarcts in the left parietal and frontal lobes. A transesophageal echocardiogram revealed vegetations and marked thickening of the posterior mitral leaflet, and a 12 mm-sized mobile complex echodensity adherent to the atrial surface with mitral regurgitation [Figure 1]. Blood cultures from the initial admission revealed gram negative rods in ¼ aerobic bottles that later speciated to *Streptobacillus moniliformis*. A PICC line was subsequently placed and she was prescribed a 6 week course of IV antibiotic therapy comprising ceftriaxone. Patient's aphasia was seen to improve and she was safely discharged with outpatient followup with infectious disease.

Conclusion: This case illustrates an interesting series of events that began with a rat bite and eventually culminated with the identification of vegetations on the valves of the heart and *Streptobacillus moniliformis* in the blood. It reaffirms the importance of a good history and how it can help diagnose rare variants of common diseases.

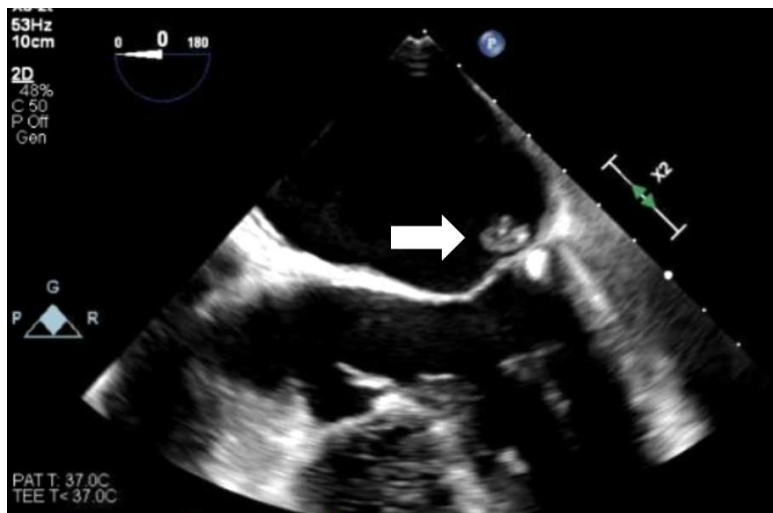


Figure 1 Legend: Transesophageal Echocardiogram showing thickening of the posterior mitral leaflet. An atrial surface mitral valve mobile vegetation of 12mm diameter.

