Periannular Abscess Cavities in Endocarditis
The Case for Prolonged Surveillance

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Left ventricular rupture and formation of a pseudoaneurysm is a well-recognized complication after mitral valve replacement. With an incidence of ≈1.2%, it is extremely rare and potentially fatal.1 We describe such a case in the setting of infective endocarditis.

A 47-year-old man came into casualty reporting fever, chest pain, and shortness of breath. His history included 25 years as an intravenous drug user, injecting heroin and methadone, and being positive for hepatitis C. He had recently experienced an abscess in the groin after the use of this site for injection. On examination, he was found to be pyrexial (39.4°C) and tachycardic, with a blood pressure of 142/97 mm Hg. He had a harsh apical pansystolic murmur, nail fold infarcts, and splinter hemorrhages in his hands and feet.

Blood tests showed a C-reactive protein count of 236 mg/L and a white cell count of 6.8 × 10⁹. Erythrocyte sedimentation rate was 31 mm in the first hour. The differential cell count revealed 109 (7%) monocytes, 109 (91%) neutrophils, 0.1 × 10⁹ (1%) lymphocytes, and 0.5 × 10⁹ (7%) monocytes.

His initial transthoracic echocardiogram revealed a grossly disrupted mitral valve with severe mitral regurgitation and hyperdynamic left ventricular function. The left ventricular wall was diffusely thickened just below the posterior mitral annulus, with focal translucent areas highly suggestive of an abscess cavity (Figure 1). Given these findings, he was referred immediately to cardiothoracic surgeons with a diagnosis of Staphylococcus aureus endocarditis secondary to intravenous drug use.

The valve was shown to have extensive destruction, with a large vegetation on the posterior leaflet. Both mitral leaflets were completely excised, with further removal of infected and necrotic tissue around the annulus. The valve was replaced with a 31-mm pericardial valve. The tissue around the annulus was of very poor quality, and the perimount valve was replaced with a 31-mm perimount pericardial valve. The patient was then continued on intravenous antibiotics and improved considerably. He was finally discharged almost 2 months after being admitted. He attends regular outpatient appointments 20 months later and remains well.

The incidence of posterior abscess formation is very rare, with a reported incidence of 0.6% of cases.4 The valve replacement in this setting of advanced, destructive sepsis is a rare but well-recognized complication with mitral valve endocarditis, particularly with virulent organisms such as S aureus and Enterococcus. When this occurs, there is a significant postoperative risk of dehiscence of the sewing ring. Prolonged surveillance with echocardiography is necessary to pick up the potentially fatal complication illustrated in this case report.

Disclosures
None.

References

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Figure 1. Transthoracic echocardiographic imaging. A, Parasternal long-axis view of the mitral valve. White arrows highlight the posterior leaflet, demonstrating the extensive damage caused by infection. B, Parasternal short-axis view at the level of the mitral valve. White arrows indicate the lucent regions within the myocardium thought to be (and later confirmed as) abscesses. The asterisk denotes pericardial fluid. C, Subcostal view demonstrating the integrity of the posterolateral wall before initial surgery. D, Apical long-axis views demonstrating the degree of mitral regurgitation present. E, Perioperative transoesophageal echocardiogram 4-chamber view demonstrating the degree of mitral regurgitation.

Figure 2. Postoperative transthoracic apical 4-chamber view showing the large posterolateral left ventricular pseudoaneurysm. A, Pseudoaneurysm is indicated by white arrows, with a linear echobright structure extending within. B, The neck of the pseudoaneurysm is shown at the posterolateral margins of the left ventricle, allowing free color flow from the ventricle into the cavity.
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