Pectus excavatum is a common congenital musculoskeletal disease occurring in approximately 1 in 800 births.\(^1\) Indications for surgical repair include pain, exercise intolerance, abnormal pulmonary function, right ventricular (RV) dysfunction, tricuspid valve compression, and cosmetic enhancement.\(^2\) We present an unusual case of endocarditis after pectus repair.

A 14-year-old girl presented to the emergency room with a 2-week history of intermittent fever, chills, and pain in the lower parasternum 2 months after pectus excavatum repair. The modified Ravitch technique was used, inserting an 18-cm vitallium strut for stabilization. Physical examination revealed a 3/6 holosystolic midfrequency murmur heard throughout the precordium and an early, short diastolic murmur. Initial laboratory studies demonstrated a mild left shift and elevated inflammatory markers. Chest radiograph demonstrated a normal cardiac silhouette with inferior and posterior displacement of the pectus bar at the level of the RV anterior wall (Figures 1 and 2). The findings from the ECG were normal. A nuclear medicine white blood cell scan demonstrated nonspecific abnormal increased radiotracer uptake in the mediastinum.

The initial transthoracic echocardiogram demonstrated shado\-\ing in the RV with mild compression of the RV outflow tract (Figure 3; Movie I). Repeat transthoracic and transesophageal echocardiograms 48 hours later demonstrated the presence of a large mobile mass in the RV outflow with direct compression of the epicardial surface in the presence of an intact pericardium. Turbulence across the RV outflow tract may have abraded the endothelium, which provided a nidus for infection. Endocarditis and ongoing compression from the bar likely contributed to the creation of the fistulous tract from the endocardial to the epicardial surface in the presence of an intact pericardium.

This is an unusual case of endocarditis secondary to pectus bar displacement during the postoperative period. This organism has a predilection for prosthetic valves and other foreign material.\(^4\) It is conceivable that the pectus bar was contaminated during the repair, resulting in an infectious process that began in the mediastinum and subsequently involved the pericardium, adjacent epicardium, and finally the endocardium. When the pectus bar became displaced and compressed, the myocardium turbulence across the RV outflow tract may have abraded the endocardium, which provided a nidus for infection. Endocarditis and ongoing compression from the bar likely contributed to the creation of the fistulous tract from the endocardial to the epicardial surface in the presence of an intact pericardium.

This is an unusual case of endocarditis secondary to pectus bar displacement during the postoperative period and emphasizes the need for a high level of suspicion for endocarditis in patients who present with fever and chest pain after pectus repair.

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Disclosures

None.

References

Figure 1. Chest radiograph in the anteroposterior (A) and lateral projection (B) before displacement of the pectus bar.

Figure 2. Chest radiograph in the anteroposterior (A) and lateral projection (B) after displacement of the pectus bar.
Figure 3. Transthoracic apical 4-chamber imaging view showing the vegetation (arrow). RA indicates right atrium; LA, left atrium; LV, left ventricle.

Figure 4. Transesophageal echocardiographic modified apical 4-chamber imaging plane showing compression of the RV by the pectus bar and the vegetation (arrow). LV indicates left ventricle.

Figure 5. Photograph showing vegetation (arrow) in the RV cavity.
Figure 6. Hematoxylin/eosin staining (10×) of the vegetation showing fibrosis and patchy inflammation.
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