Titanium plates for primary closure of complete sternal cleft in an adult: Five-year follow-up

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A 39-year-old woman was seen for obvious cardiac and aortic pulsations as a result of complete sternal cleft. Computed tomographic scan showed the cleft to be 6 cm wide and complete (Figure 1). The patient underwent primary closure of the cleft with titanium plates (Figure 2). A single star-shaped titanium plate and 2 longitudinal titanium plates was used for the repair. The plates were secured with screws to the adjacent ribs. Five years later, follow-up has proved the efficacy of this closure in providing both physical protection and patient satisfaction. A recent follow-up computed tomographic scan is shown in Figure 3. This report, the first in the literature of the repair of such a defect in an adult of this age, shows that primary closure is possible without the need for complex sternal reconstruction.

FIGURE 1. A, Preoperative 3-dimensional reconstructed computed tomographic scan. B, Cross-section of computed tomographic scan showing the defect.

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FIGURE 2. Postoperative chest radiograph showing the titanium plates.

FIGURE 3. Postoperative 3-dimensional reconstructed computed tomographic scan.