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Treatment of severe mediastinitis following cardiac surgery with omental flaps

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DESCRIPTION

The incidence of mediastinal wound infection in patients undergoing open heart surgery can be up to 4%.¹ A subgroup of 20–30% of those patients as per El Oakley and Wright² develops deep sternal infections. Radical debridement is of a paramount importance, therefore sternal excision becomes a necessity in cases with severe sternal osteomyelitis. Under those circumstances various flaps have been used.³

The omentum, is a well-vascularized tissue with immunologic and angiogenic properties. It is a versatile organ with well-documented utility in the reconstruction of complex wounds and defects. In our experience it has only been used as a pedicle. The median sternotomy incision is extended for 6 cm towards the umbilicus and the peritoneal cavity is entered. The omentum is mobilised from the major curvature of the stomach with its blood supply (figure 1A) and is brought up in to the chest through a diaphragmatic opening; it fills the gap of the missing sternum quite adequately (figure 1B). The pectoralis major muscle based on the thoracoacromial artery is also mobilised. This facilitates apposition of the pectoral musculature and subcutaneous tissue 'en mass' on top of the omentum, in the midline. Donor site complications resulting from omental harvesting include ventral hernia, small bowel obstruction, haemorrhage, etc.

In the last decade, vacuum therapy is increasingly being employed in sternal wound infections as a first line therapy. Omental flaps are being used following failure of vac therapy or wounds with large defects. Contemplating any redo cardiac surgery is of higher risk and technically difficult especially in patients with previous mediastinitis. In patients with previous sternal flap repairs, thoracotomy may be the only route to access the heart.

In conclusion, poststernotomy mediastinitis is still one of the most feared complications after cardiac surgery and during the last 50 years several conventional treatments have been developed in order to manage these devastating infections. An optimal therapy is still yet to be determined.

Competing interests None.

Patient consent Not obtained.

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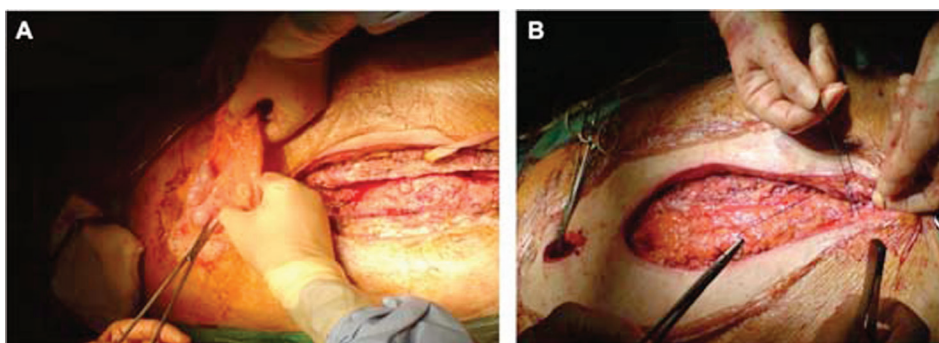


Figure 1 (A) Harvesting of omentum. (B) Omentum is placed as a pedicle through a diaphragmatic opening in the anterior mediastinum.

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