Bimodal assessment to facilitate accurate mediastinal repositioning following pneumonectomy

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DESCRIPTION

We present a case with a successful use of mixed silicone and saline implant expanders to achieve mediastinal repositioning facilitated by periprocedural bimodal assessment. A 63-year-old man with a large central tumour underwent right pneumonectomy. He developed stridor with dyspnoea 3 months later. Clinical and radiological findings were consistent with postpneumonectomy syndrome (figure 1A, B).^{1 2}

Mediastinal repositioning was undertaken through the placement of silicone and saline-filled prostheses at rethoracotomy. Intraoperative bronchoscopy was performed to facilitate centralisation of mediastinum. Subcutaneous ports and early CT scanning allowed assessment of positioning. Postoperative imaging (figure 2A, B) confirmed centralisation of mediastinum. This resulted in significant and durable symptomatic relief.

Figure 1 (A) Chest radiograph premediastinal repositioning showing right-sided mediastinal shift. (B) CT scan of the chest showing marked mediastinal shift with arching of the left main bronchus over the descending thoracic aorta.

Figure 2 (A) Chest radiograph postmediastinal repositioning showing resolution of the mediastinal shift. (B) CT scan of the chest postmediastinal repositioning demonstrating restoration of the mediastinum to the midline via placement of two silicone and saline breast implants into the right pleural cavity.

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Learning points

- ▶ Postpneumonectomy syndrome should be considered in patients presenting with dynamic airway obstruction following previous pneumonectomy.
- ▶ Radiological imaging is characterised by marked mediastinal shift with arching of the main bronchus across the descending aorta or thoracic vertebrae.
- ▶ The use of mixed silicone and saline implants facilitates accurate mediastinal repositioning that may be assessed intraoperatively by bronchoscopy.
- ▶ Placement of ports in a subcutaneous position enables the surgeon to make further adjustments postoperatively by instillation or removal of saline guided by early postoperative CT scanning.

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