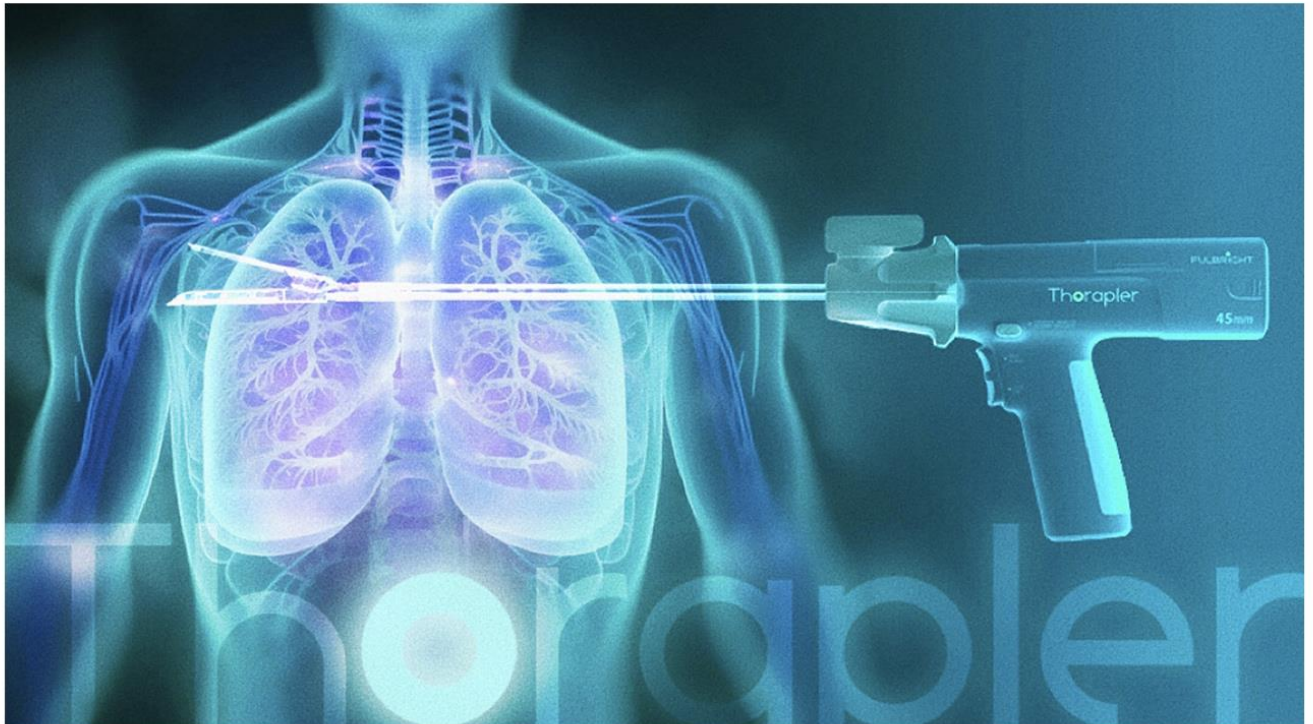




Use of the THORAPLER Two-Line Stapler in Extended Upper Right Lobectomy with Rib Invasion

October 14, 2025



Institution: Miguel Servet University Hospital, Zaragoza, Spain

Diagnosis: Stage IIIB squamous cell carcinoma of the right upper lobe with posterior invasion of the second rib arch

Procedure: Extended right upper lobectomy with chest wall resection following induction therapy

Case Presentation

A patient with stage IIIB squamous cell carcinoma of the right upper lobe, showing posterior invasion of the second rib arch, underwent surgical resection following induction treatment.

A right upper lobectomy was performed through a posterior thoracotomy extended to the chest wall, including excision of the second rib arch and costovertebral disarticulation.

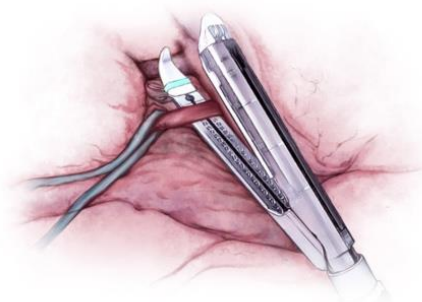
Surgical Technique and Device

An upper right lobectomy was performed via posterior thoracotomy extended to the chest wall, with excision of the second rib arch and costovertebral disarticulation.

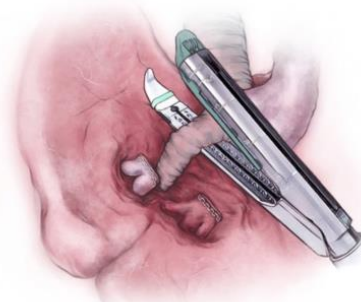
To perform this procedure, the **2-line stapler THORAPLER** was used, this new device allows for a less invasive procedure, with only two rows of staples in a chain configuration, providing haemostasis and aero-stasis comparable to other devices with three linear rows of staples.

In this type of procedure, it is essential to have staplers that guarantee:

- ✓ **Precise sealing of vascular structures.**
- ✓ **Secure closure of the bronchi.**
- ✓ **Lung parenchyma without air leaks.**



Vascular

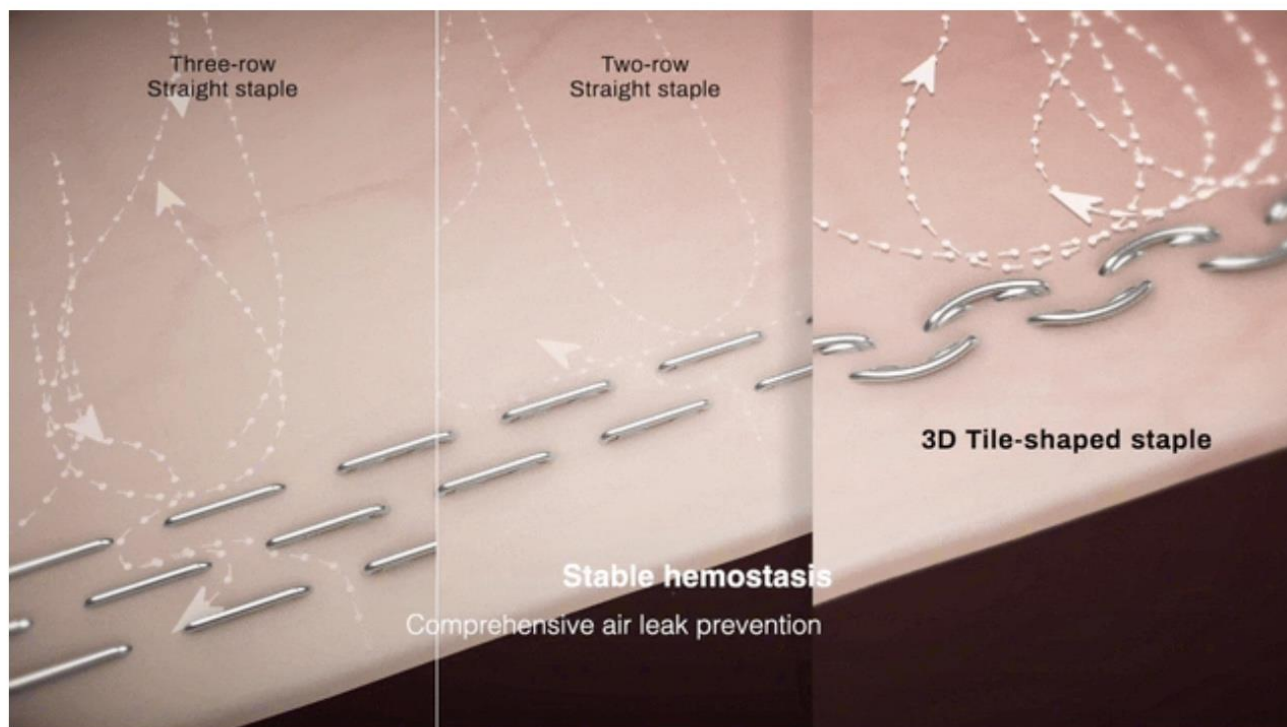


Bronchus



Lung tissue

The **two-line system** allows for less invasive stapling, minimizing tissue trauma while maintaining staple line integrity. Its ergonomic design and reduced jaw width also enhance visibility and access in confined thoracic spaces, particularly useful in complex resections involving the chest wall.



THORAPLER with 3D Tile-shaped Staple

The Special

The patient progressed favourably, with no bleeding or leaks, allowing for early discharge without significant complications.

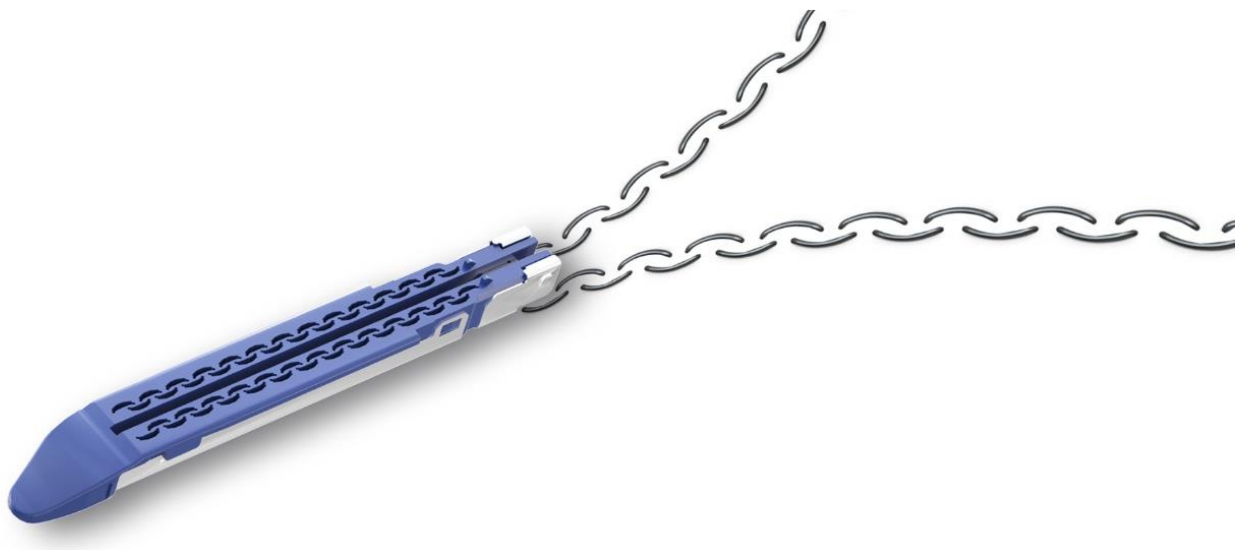
The combination of patient cooperation, multidisciplinary team coordination and innovative technology support is what allows us to achieve the best results for our patients.

Discussion

The case demonstrates that the **THORAPLER two-line stapler** provides **clinical performance comparable to traditional three-row staplers** in terms of haemostasis and aero-stasis, while offering additional advantages:

- **Narrower reload and double-row design with 16.7% reduced width**, enabling flexible use in narrow anatomical spaces.
- **Optimized 2 line staple formation** that ensures consistent closure with fewer rows
- **Enhanced surgical precision** in confined anatomical spaces

This experience supports the **clinical safety and efficiency** of the **two-line stapler system** in complex thoracic procedures, suggesting it as a viable alternative to conventional devices for selected patients requiring extended lobectomy with chest wall resection.



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