



Sixth International
Joint Meeting on
**THORACIC
SURGERY**
Barcelona - 20th, 21st and 22nd November 2024
Auditorio Foment del Treball Nacional, Barcelona (Spain)

11th International Meeting on General Thoracic Surgery



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10th International Workshop on Surgical Exploration of the
Mediastinum and Systematic Nodal Dissection



5th Meeting of the Thoracic Oncology, Thoracic
Surgery, Techniques & Transplant, Respiratory Nursing
and Respiratory Physiotherapy Areas of the Spanish
Society of Pneumology and Thoracic Surgery (SEPAR)



3rd Joint Meeting of the Spanish Society of
Thoracic Surgery (SECT)



30th Congress of the "Asociación Iberoamericana
de Cirugía Torácica" AIACT



10th International Workshop on Surgical Exploration of the
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WHEN THE FACE LOOKS LIKE A PUFFERFISH: EFFICACY OF NEGATIVE PRESSURE THERAPY TO RESOLVE PERSISTENT SUBCUTANEOUS EMPHYSEMA FOLLOWING CARDIOTHORACIC SURGERY

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Objectives: To evaluate the efficacy of negative pressure therapy in the treatment of persistent subcutaneous emphysema (SE) following cardiothoracic surgery

Materials and Methods: We present two cases of worsening SE after right lower VATS lobectomy for stage II NSCL in the first case and after right sided mitral valve replacement (Port Access) in the second case. Both patients were male, aged 78 and 83 years old respectively, with documented COPD and pulmonary emphysema. Clinical evidence of SE (chest, neck, head) was early (5 and 4 day po). Chest X rays showed inadequate right lung expansion and air leaks were present. A second chest drain was inserted in both cases. No tracheal nor bronchopleural fistula was identified. Despite the two chest tubes with – 20 H₂O cm aspiration and re-expanded lung, SE was persistent with orbital swelling and eye-opening impossibility.

Results: In order to control and reduce the SE the use of negative pressure therapy (NPT) was applied. Creation of a 7cms subclavian pouch was performed under local anesthesia and sedation. The foam of the device was placed with blunt dissection beyond the pectoralis mayor. NPT was applied ranging from 50 to 100 mmHg. SE subsequently resolved within 48-72 hours.

Conclusions: When dealing with worsening SE extending to head and neck, in absence of tracheobronchial lesions and despite watchful use of chest drains, NPT applied in a small subclavian pouch helps in our experience to successfully treat this complication, reducing hospital stay, long-term chest drain related problems and patient anxiety.