



Objective :

Analysis of sealant impact in management of moderate intraoperative alveolar air leaks during minimal invasive segmentectomy: a multicentre randomised controlled trial

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Results	More information					
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	mean (sd)	median [Q25-75]	min	max	n	р
Nerostatic	(o,neoveil1/progel2)					
0	5.17 (4.84)	4.00 (2.00 - 6.50)	1.00	21.0	23	<0.001
1	2.13 (1.38)	2.00 [1.00 - 3.00]	1.00	6.00	38	\$
2	1.81 (1.38)	1.50 [1.00 - 2.00]	0	6.00	16	1

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To evaluate whether sealant reduced postoperative air leak (PAL) following video-assisted (VATS) or robot-assisted (RATS) segmentectomy, we conducted a prospective multicentric randomised controlled trial to demonstrate if the use of a polymeric biodegradable sealant (ProgeITM, Bard Davol, Warwick, RI, USA) or polyglycolic acid gauze (Neoveil, GUNZE Ltd., Japan) reduces PAL in moderate intraoperative air leak (IAL) compared with conservative standard treatments.

Methods :

inclusion criteria : all adult patients planned for minimal invasive (VATS, RATS) segmentectomies and presenting moderate IAL at the end of the procedure (leakage was graded moderate if leak <100ml/mn during 1 mn Ventilation Mechanical Test). Exclusion criteria : redux surgery, thoracotomy approach, peroperative conversion, IAL > 100 ml/mn.

The patients were prospectively randomly assigned in the operating room to 3 groups :

Polymeric sealant **PROGEL** (group PS), polygycolic acid **NEOVEIL** (group PA) and conservative treatment (group CT).

The chest tube was connected to an autonomous digital drainage system (Thopaz™). The criteria for drain removal were a flow < 10 ml/mn and a daily output of less than 5ml/kg. The study endpoint was the time to drainage removal. **Results**:

From January 2022 to June 2024, 77 patients operated on in two Thoracic centers were included in the study (41 male, 36 female, mean age of 66 years [60;75]) underwent 52 VATS and 25 RATS segmentectomies for non small cell lung cancer. The mean duration of chest drainage was 2.97 days [0-21]. The groups with sealant (PS, PA) had a significant lower drainage duration (1.81 day, 2.13 days respectively) compared to conservative treatment (5.17 days) p<0.001. There was no significant difference between the Progel and Neoveil (Table1).

The predicitive factors of prolonged air leaks more than 5 days were peroperative pneumolysis and flow > 100ml/mn at day 0 (Table2).

Conclusions The application of a sealant at the end of the operation appears to reduce the drainage duration following minimal invasive segmentectomy and therefore the length of hospital stay. In order to differentiate between the efficacy of the polymeric biodegradable sealant and the polyglycolic acid gauze, a larger number of patients will be required