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DOES THE USE OF A SYNTHETIC SEALANT CATER FOR INTRAOPERATIVE AIR-LEAKS FOLLOWING LUNG RESECTIONS IN ALL PATIENTS? A SINGLE CENTRE PROSPECTIVE STUDY
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Objectives: We evaluated the effectiveness of a novel synthetic sealant patch (TissuePatch™) used for intraoperative parenchymal air-leaks in facilitating quicker chest drain removal time and hospital stay.

Methods: A single-centre prospective study. Between March 2010 and July 2011 we enrolled 31 patients (TP group, TPG) who underwent lung resection either by open or VATS technique. Air-leaks were graded using the Machiarrini scale with post-resection lung submersion. The defects were attended using sutures and TP or TP alone. Postoperatively a digital drainage system (Thopaz™, Medela) was used to quantify air-leak and duration as standard of care. A control-matched group (CG) of 10 patients was identified in whom standard closure techniques were applied.

Results: We identified a shorter time for drain removal in the TPG (median 4 days) compared to CG (median 11.5). Similarly quicker discharge for the TPG group (median 5.0) compared to CG (median 7.5). Those patients who had an open procedure had a shorter hospital stay in the TPG (median 5 days) compared to the CG (median 7 days). This trend was also favourable compared to National data (HES, hospital episode statistics for England 2010) (median of 8 and 9 days for lobectomy and bilobectomy respectively). We witnessed no adverse events related to the application of the sealant.

Conclusions: We advocate the use of TissuePatch in the intraoperative management of lung parenchymal leaks. Although the sample size was not adequate to reach statistical significance, important lessons have been learned. Sealants have a place in the management of parenchymal leaks providing careful patient selection and utilization of products either alone or in combination with suturing techniques. The position and size of tear and the quality of underlying parenchyma play the most important role in the effective application of sealants and reward a successful outcome.

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