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IMPACT OF NEOADJUVANT THERAPY ON POSTOPERATIVE OUTCOMES IN ROBOTIC THORACIC SURGERY: A DETAILED ANALYSIS

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INTRODUCTION AND OBJECTIVES

Neoadjuvant therapy is essential in treating locally advanced non-small cell lung cancer (NSCLC), aiming to reduce tumor size and improve oncological results. However, its effect on postoperative outcomes like hospital stay, air leak and complication rates remains unclear. This study hypothesizes that neoadjuvant therapy may complicate the postoperative course.

MATERIAL AND METHODS

We conducted a retrospective analysis of 440 patients who underwent robotic-assisted thoracic surgery for lung cancer between 2019 and 2024. Among them, 18 received neoadjuvant therapy. We evaluated the length of hospital stay, days of air leak and postoperative complications, including reintervention, re-admission, and mortality. **RESULTS** Patients who received neoadjuvant therapy had significantly longer surgical times (247.22 minutes vs. 191.76 minutes, $p = 0.0036$). However, no significant differences were found in hospital stay length (6.96 days vs. 6.75 days, $p = 0.29$) or days of air leak (6.44 days vs. 6.05 days, $p = 0.25$). The incidence of respiratory insufficiency was higher in the neoadjuvant group ($p = 0.0046$), as were rates of pneumothorax ($p < 0.0001$), hemothorax ($p = 0.0141$), and reoperations ($p = 0.0141$). Mortality was marginally higher in the neoadjuvant group ($p = 0.0454$), suggesting increased postoperative risk.

CONCLUSIONS

In conclusion, while neoadjuvant therapy does not significantly impact hospital stay or air leak, it is associated with longer surgical times and a higher incidence of specific postoperative complications. These findings indicate the need for meticulous perioperative management in patients receiving neoadjuvant therapy before thoracic surgery.