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Acute lung injury post-surgical resection

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Introduction: Acute Lung Injury (ALI) and Acute Respiratory Distress Syndrome (ARDS) are critical pulmonary conditions characterized by the sudden onset (<7 days) of severe hypoxemia and bilateral lung infiltrates.^(1,2) The study investigates the occurrence of Acute Lung Injury (ALI) and Acute Respiratory Distress Syndrome (ARDS) following surgical resections, focusing on clinical manifestations, risk factors, and outcomes.

Methods: A retrospective analysis of eight cases of ALI post-surgical resection between 2020 and 2023 was conducted. Data on patient demographics, comorbidities, surgical techniques, and complications were collected from medical records and diagnostic tests.

Results: Post-operative pulmonary infiltrates developed in eight patients, with a mortality rate of 50%. Risk factors included hypertension, smoking, COPD, diabetes, and dyslipidemia. 87.5% of patients were classified as ASA II, and 12.5% as ASA III. 87.5% of patients underwent robotic-assisted surgery, and 12.5% underwent video-assisted thoracoscopic surgery. 87.5% of patients were diagnosed with malignancy, with adenocarcinoma being the most common type. The surgical duration varied from 215 to 615 minutes, with an average of 332 minutes. Ventilatory parameters and crystalloid infusion volume were within the recommended ranges. Complications occurred on average on the third postoperative day, with desaturation requiring oxygen supplementation, leukocytosis, elevated C-reactive protein (CRP) levels, and pulmonary infiltrates on imaging studies being the primary symptoms. 87.5% of patients required intubation, and 50% needed tracheostomy due to prolonged invasive mechanical ventilation. The length of hospital stay ranged from 7 to 185 days, with an average of 59.8 days.

Conclusion: The study highlights the importance of protective ventilation strategies and cautious fluid management to prevent ALI. The findings contribute valuable insights to the multifaceted nature of ALI in the context of surgical resections, emphasizing the need for tailored approaches to enhance patient safety and surgical practices.

Keywords: Acute lung injury; Pulmonary resection; Thoracic surgery

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