

Control of aerostasis in pulmonary metastasectomy by precision resection. Standard technique versus fibrin glue modification. [Italian]

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Abstract:

The control of aerostasis after performing non-anatomical pulmonary resections constitutes a serious problem. The presence of an air leak in the postoperative period requires a prolonged thoracic drainage and consequently a longer hospital stay. The aim of our study was to evaluate the usefulness of fibrin glue and its effectiveness in the prevention of air leaks. At the Department of Thoracic Surgery of the National Cancer Institute of Milan, we conducted a case-control study in 90 patients submitted to metastasectomy for secondary lung cancer, removing multiple small nodules ≤ 1.5 cm using the precision resection technique. We divided the patients into two groups, both of 45 subjects: group 1 treated with fibrin glue and group 2 submitted to cauterization of the pulmonary parenchyma. The patient characteristics were well matched for age, type of approach and operation, number of resections performed and type of pathology. The assessment parameters investigated were the duration of the air leak, expected complications, drainage time and length of hospital stay. In group 1 we performed fewer than 5 precision resections in 21 cases, from 5 to 10 in 16, and more than 10 in 8. In group 2 we executed fewer than precision resections in 21 cases, from 5 to 10 in 17, and more than 10 in 7. In group 1 the duration of the air leak was 2.93 ± 1.91 days as against 6.95 ± 7.01 days in group 2 ($p = 0.000$). In group 1 we had one complication (2%) (a long-term air leak lasting > 10 days), while in group 2 we had a long-term air leak in 11 cases (24%) ($p = 0.000$). Mean thoracic drainage time was 4.22 ± 1.43 days in group 1, and 8.13 ± 7.37 in group 2 ($p = 0.000$). The mean postoperative hospital stay was 6.22 ± 1.43 days in group 1 compared to 10.13 ± 7.37 days in group 2 ($p = 0.000$). In the group of patients treated with fibrin glue we obtained a significant

reduction in drainage time, complications and postoperative hospital stay. The results of our experience show that the use of fibrin glue in non-anatomical resections with a high risk of developing air leakage is effective in reducing the expected complications, with a favourable impact also on the quality of life of patients with metastases.