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Pneumonectomy with Atrial Resection for Non-Small Cell Lung Cancer; Surgical Outcome and Review of Literature

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Objectives: Lung cancer invading left atrium is accepted as T4 tumor and surgical treatment in these patients is controversial. Aim of this study is retrospective review of patients who underwent surgery for non-small cell lung cancer invading left atrium.

Methods: Between May 2004 and March 2017, eighteen lung cancer patients underwent pneumonectomy with atrial resection, with or without cardiopulmonary bypass. These patients were analysed retrospectively.

Results: 16 patients were male, 2 were female. Mean age was 60,8 (range:44-76, SD±1,8). All patients underwent pneumonectomy. Cardiopulmonary bypass was used in only one patient. Histopathologically SCC in 13 patients, adenocarcinoma in 4 patients and combined large and small cell neuroendocrine carcinoma in 1 patient were detected. The most common postoperative complication was cardiac arrhythmia. 30-day mortality rate was 5.5%. N2 was detected in two patients considering by postoperative pathology results. The presence of lymph node metastasis (N1 -2) was found to be associated with recurrence ($p<0.05$). 1, 3 and 5- year survival rates were 77%, 18.6% and 9.3%, respectively.

Conclusion: Although surgery is controversial in non-small cell lung cancer patients with left atrium invasion, resection may improve survival of selected patients. Morbidity and mortality rates are acceptable. In selected cases without lymph node metastasis, recurrence can be reduced by surgical treatment.

Keywords: Atrium, lung cancer, pneumonectomy