

Early Surgical Results Following Pneumonectomy for Non-Small Cell Lungcancer are not Affected by Preoperative Radio- and Chemotherapy.

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Objectives: Higher operative risks following pneumonectomy for NSCL have been reported following neoadjuvant chemo- and/or radiotherapy. We studied all patients that underwent pneumonectomy for NSCL at our institution during 8 years, evaluating the impact of neoadjuvant treatment on mortality and morbidity, especially bronchopleural fistula.

Methods: Pneumonectomy was performed in 130 consecutive patients between 1996 and 2003. Thirty-five cases received preoperative radio- and chemotherapy (Group I), while 95 patients did not (Group II). Operative mortality (OM) and postoperative complications were compared between groups I and II, using uni- and multivariate logistic regression analysis.

Results: Patients in group I were younger and diagnosed at higher stages compared to patients in group II (Table 1). Minor postoperative complications (atrial fibrillation, heart failure, pneumonia, etc.) were comparable in groups I and II ($p > 0.10$). Five patients in group I and 10 in group II had serious complications (ns.). Eight of these patients had bronchopleural fistulas (7 right and 1 left, $p < 0.01$), 3 of them belonging to group I (ns.). Only 3 of these fistulas required a reoperation. One patient (group II) died within 30 days postoperatively. Symptom duration (HR 6.6, $p = 0.01$) and right-sided pneumonectomy (HR 2.4, $p = 0.05$) increased the risk for bronchopleural fistula. However, induction treatment, postoperative radiotherapy or coverage of the bronchial stump did not affect the risk of bronchopleural fistulation.

Table 1 (number, and percentage within parenthesis)

	Group I (n=35)	Group II (n=95)	P-value
<i>Age</i>	57.6	65.5	0.05
TNM stage:			
IA + IB	0 (0)	34 (35.5)	< 0.001
IIA + IIB	3 (8.6)	15 (15.8)	
IIIA	13 (37.1)	26 (27.3)	
IIIB	18 (51.4)	19 (20)	
IV	1 (2.9)	1 (1.1)	
Bronchial stump coverage	25 (71.4)	48 (50.5)	0.04
Major complications	5 (14.3)	10 (10.5)	0.55
Minor complications	14 (40)	31 (32.6)	0.43
Operative mortality	0 (0)	1 (1.1)	> 0.1
Length of hospital stay (average, median)	10.7 / 9	11.8 / 9	0.22

Conclusions: Pneumonectomy is a safe procedure with low OM. Postoperative morbidity

is significant, especially bronchopleural fistulas following right-sided pneumonectomy (11%). However, neither OM nor morbidity seems directly associated with preoperative radio- or chemotherapy.