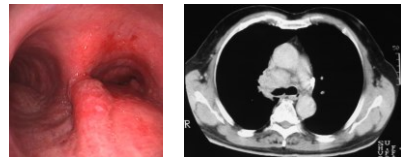




INTRODUCTION

- Tumors involving the carina may be amenable, in highly selected patients, to an “extended” resection of the tracheo-bronchial bifurcation with or without lung parenchyma resection



RATIONALE

- Recent experiences on combination therapies have shown to be feasible, safe and effective, with an acceptable impairment on surgical morbidity/mortality
- Association of induction therapies (IT) and surgery conferred a good pathological downstaging associated to a best survival benefit and control disease

BACKGROUND

- Although recent studies found that preoperative chemotherapy did not significantly affects morbidity and mortality among patients who underwent sleeve resection, the influence of induction therapy (IT) on patients receiving carinal resection remains unclear

OBJECTIVE

- To evaluated surgical and long-term outcomes of patients who underwent carinal resection after IT

METHODS

• We reviewed our prospective database and we selected the medical records of all patients who underwent carinal resection for neoplastic disease between December 1998 and December 2016

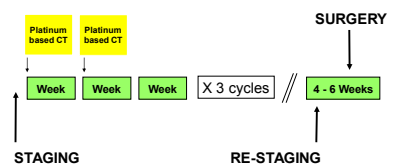
• Patients were divided into two groups: receiving IT or not and were compared to demographics and clinical outcomes using Student's *t* tests, χ^2 test or Fisher's exact tests as appropriate

• Kaplan-Meier method was used to calculate the expected survival rates; log-rank analyses were performed to compare the survivals

STAGING PROCEDURES

- Pulmonary function tests
- Cardiologic evaluation (ECG, EchoCG)
- Perfusion lung scan
- CT scan (chest, brain, upper abdomen)
- PET scan
- FNAB/endobronchial biopsy/ endoscopic brushing
- EBUS/Mediastinoscopy

TREATMENT SCHEMA

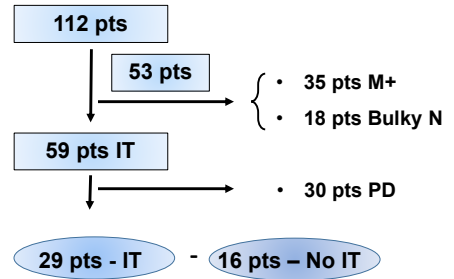


RE-STAGING PROCEDURES

- Bronchoscopy
- Pulmonary function tests
- CT scan (chest, brain, upper abdomen)
- PET scan

Response to IT was evaluated by a multidisciplinary team according to RECIST

December 1998 - December 2016



Variable	IT (n = 22)	No IT (n = 10)	p value
Age (yr±SD)	63.80±8.12	60.82±8.06	0.34
Sex	18M/4F	8M/2F	0.91
FEV1 (% predicted±SD)	82.93±20.17	78.58±16.65	0.55
Histology (%)			
Squamous	12 (54.5)	6 (60.0)	
Adenocarcinoma	10 (45.5)	4 (40.0)	0.77
Clinical stage (%)			
IIB	0	3 (30.0)	
IIIA	0	7 (70.0)	
IIIB	22 (100)	0	0.62
Co-morbidities (%)			
Pulmonary	3 (13.6)	1 (10.0)	
Cardiovascular	5 (22.7)	2 (20.0)	0.15

SURGICAL RESULTS

- Operative approach
 - Right lateral thoracotomy 30 (93.8%)
 - Right postero-lateral thoracotomy 1 (3.1%)
 - Hemi-clamshell 1 (3.1%)
- SVC resection 15 (64.7%)
 - Tangential resection 7 (21.8%)
 - Graft interposition 8 (25%)
- Vertebral resection 1 (3.1%)
- Pulmonary Artery resection 1 (3.1%)

Variable	IT (n = 22)	No IT (n = 18)	p value
30-day mortality (%)	2 (9.1)	1 (10.0)	0.43
Morbidity (%)	13 (59.1)	8 (80.0)	
Major	4 (18.1)	3 (30.0)	
ARDS	1 (4.5)	1 (10.0)	
Cardiac hernia	1 (4.5)	0	
Broncho-pleural fistula	2 (9.1)	1 (10.0)	
Empyema	0	1 (10.0)	0.62
Minor	9 (40.9)	5 (50.0)	
Arrhythmia	3 (13.6)	2 (20.0)	
Pneumonia	2 (9.1)	1 (10.0)	
Subcutaneous emphysema	3 (13.6)	1 (10.0)	
Ischemic event	0	1 (10.0)	
Neurological disorder	1 (4.5)	0	0.26
ICU stay (dsSD)	3.09±5.28	0.80±0.63	0.18
Hospital stay (dsSD)	15.40±13.40	13.90±6.80	0.74

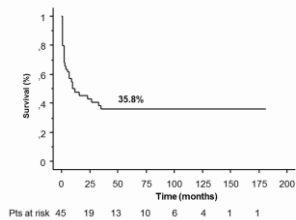
PATHOLOGICAL NODAL STAGING (IT GROUP)

	pN	N0	N1	N2
cN2	22	2	11	9

- Nodal downstaging 13/22 (59.1%)
- Complete resection 31 (97.0%)

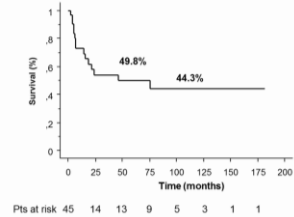
LONG-TERM OUTCOME

- Median survival 16 m (1-181 m)



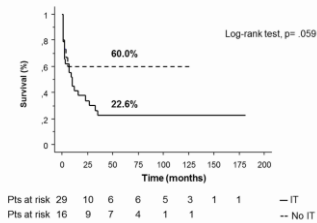
LONG-TERM OUTCOME

- Median Disease Free Interval 11.5 m (3-118 m)



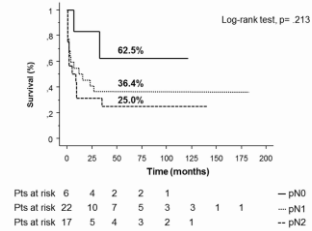
LONG-TERM OUTCOME

Survival according to IT



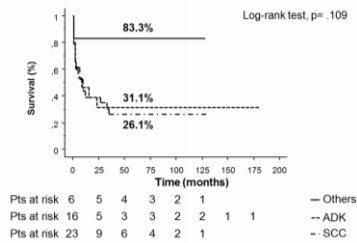
LONG-TERM OUTCOME

Survival according to pathological nodal staging



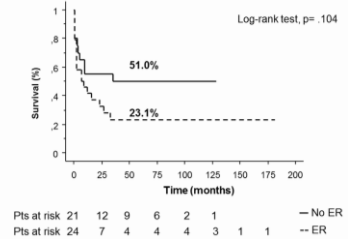
LONG-TERM OUTCOME

Survival according to histology



LONG-TERM OUTCOME

Survival according to extended resection



CONCLUSIONS

- Centrally located tumors involving the carina remain a rare condition, but surgical resection can be proposed in selected patients
- Resection of tracheo-bronchial bifurcation with or without lung resection is a feasible but technically challenging surgical procedure and provides acceptable early and long-term results

CONCLUSIONS

- IT did not influence neither morbidity and mortality, nor survival
- In our experience, pathological nodal involvement did not impact on long-term survival

- Factors associated with best prognosis
(multivariate analysis)

Variable	HR	95% CI	P
Nodal downstaging	0.49	0.25-0.91	.035
Adjuvant Treatment	0.46	0.24-0.84	.007
Postoperative complications	0.51	0.26-0.98	.039