Impact of surgical technique and tumour site on resected oesophageal cancer

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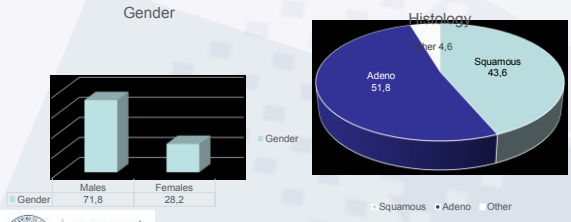
Background: surgery continues to play a leading role in achieving locoregional control in patients with oesophageal carcinoma; at present, there is no worldwide consensus regarding the optimal surgical approach.

Aim: to assess the impact of surgical approach and tumour site on overall survival (OS) and disease free survival (DFS) on resected oesophageal cancers.

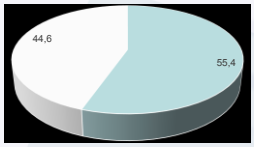
Patients

110 consecutive patients suffering from malignant oesophageal cancer undergoing radical intent surgery; mean age 66 (25-86).



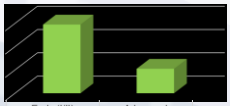
Methods

Surgical approach



Left thoraco-phreno-laparotomy
Right-sided thoracotomy +/- left cervicotomy

Stage



	Early (I/II)	Advanced
Stage	51,9	48,1

Results

Left-sided approach presented lower overall complication rate when compared to different approaches (p<0.001).

Multivariable analysis disclosed that both overall survival (OS) and disease free survival (DFS) are significantly affected by major complications (OS p=0.01; DFS p=0.03) and advanced stage (OS p= 0.003; DFS p <0.001).

Surgical approach did not affect neither OS (p =0.6) nor DFS (p=0.4).

Complications

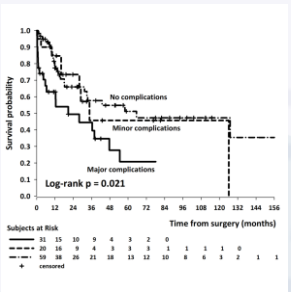
		Post-Surgery Complications, N (row %)				
		None	Minor †	Major †	Total, N (%)	p-Value
Gender	Male	40 (50.6)	16 (20.3)	23 (29.1)	79 (71.8)	
	Female	19 (61.3)	4 (12.9)	8 (25.8)	31 (28.2)	0.58
Year of surgery	1998-2000	14 (66.7)	2 (9.5)	5 (23.8)	21 (19.1)	
	2001-2016	45 (50.6)	18 (20.2)	26 (29.2)	89 (80.9)	0.41
Histology	Squanous Cell Carcinoma	23 (47.9)	9 (18.8)	16 (33.3)	48 (43.6)	
	Adenocarcinoma	34 (59.7)	11 (19.3)	12 (21.1)	57 (51.8)	
	Displasia	1	0	2	3 (2.7)	
	Other	0	0	1	2 (1.8)	0.50
Lesion site	Upper	3 (27.3)	2 (18.2)	6 (54.6)	11 (10.5)	
	Middle	9 (40.9)	3 (13.6)	10 (45.4)	22 (21.0)	
	Lower	32 (54.2)	12 (20.3)	15 (25.4)	59 (56.2)	
	Cardias	10 (76.9)	3 (23.1)	0	13 (12.4)	*0.03*
Stage	I	8 (50.0)	2 (12.5)	6 (37.5)	16 (14.6)	
	II	21 (51.2)	7 (17.1)	13 (31.7)	41 (37.3)	
	III	29 (58.0)	9 (18.0)	12 (24.0)	50 (45.5)	
	IV	0	2	0	2 (1.8)	
	RC	1	0	0	1 (0.9)	0.39
GPS Class	0	45 (53.6)	14 (16.7)	25 (29.8)	84 (80.8)	
	1	8 (47.1)	4 (23.5)	5 (29.4)	17 (16.4)	
	2	2	0	1	3 (2.9)	0.93
Pre-treatment CT/RT		6 (54.6)	0	5 (45.4)	11 (10.0)	0.18
Surgery ‡	Left	45 (73.8)	10 (16.4)	6 (9.8)	61 (55.4)	
	Other	14 (28.6)	10 (20.4)	25 (51.0)	49 (44.6)	*< .001*

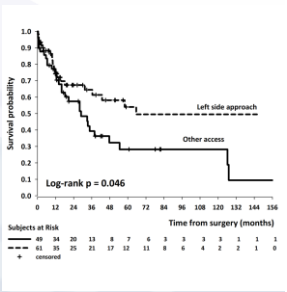
Multivariable overall survival analysis

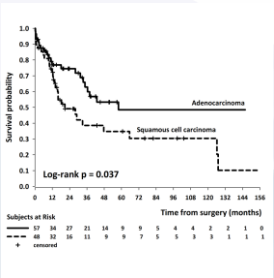
Risk Factor		Hazard Ratio (95% CI)	p-Value
Post-surgery Complications	None	Ref	
	Minor	0.89 (0.37,2.17)	0.80
	Major	2.37 (1.22,4.62)	**0.01**
Surgery	Left	Ref	
	Other	1.21 (0.61,2.41)	0.60
Histology ‡	Adeno	Ref	
	Spino	1.70 (0.89,3.23)	0.11
Stage †	I/II	Ref	
	III	2.51 (1.37,4.61)	**.003**

Multivariable disease free survival analysis

Risk Factor		Hazard Ratio (95% CI)	p-Value
Post-surgery Complications	None	Ref	
	Minor	0.94 (0.44,2.00)	0.86
	Major	2.01 (1.06,3.83)	**0.03**
Surgery	Left	Ref	
	Other	1.28 (0.67,2.44)	0.46
Histology §	Adeno	Ref	
	Spino	1.72 (0.94,3.13)	0.08
Stage †	I/II	Ref	
	III	2.79 (1.56,4.88)	**<.001**







Results

Left sided approach offers the lowest complication rate in oesophageal resection for cancer, providing the same OS and DFS when compared to the right sided approaches.

It should be considered as an ideal surgical approach - when technically feasible – for lesions involving the distal third of the esophagus.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