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Comparison of the Outcomes of Patients With Localized Esophageal Carcinoma Receiving Bimodal versus Trimodal Therapy

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Purpose: To characterize the patient population, at a single institution, being recommended chemoradiation (as definitive therapy) vs. chemoradiation and surgery.

Methods: Records of 123 patients treated with definitive chemoradiotherapy and 132 patients treated with chemoradiation followed by surgery were examined retrospectively. Anatomical location types AEG1 and 2 with adenocarcinoma or squamous cell carcinoma were included. Patients were staged clinically in a routine manner. Standard statistical methods were applied to assess outcomes including survival.

Results: At a median follow-up time of 13.3 months, patients who received surgery survived longer than those who did not. The median survival time for patients who received surgery was not reached and that for patients who did not receive surgery was 20.07 months ($P < .001$). Analysis by the univariate Cox's regression model indicated that race, gender, location of the tumor, and the clinical T and N status were not significant factors for survival, whereas the presence of metastasis ($P < .0001$) and age ($P = .006$) were significant (see Tables below). However, in the multivariate Cox's model metastasis at presentation ($P = .004$) was the only significant factor for survival.

Table 1. Distribution of gender, location, histology, clinical M and staging amongst surgical and nonsurgical groups.					
		No Surgery	Surgery		<i>P</i> value
<u>Gender</u>	Female	17 (13.8%)	18 (13.6%)	35	.966
	Male	106 (86.2%)	114 (86.4%)	220	
<u>Location</u>	AEG1	64 (52%)	95 (72%)	159	.001
	AEG2	59 (48%)	37 (28%)	96	
<u>Histology</u>	ACA	98 (79.7%)	114 (86.4%)	212	.154
	SCC	25 (20.3%)	18 (13.6%)	43	
<u>Clinical M</u>	M0	86 (69.9%)	132 (100%)	218	<.001
	M1	37 (30.1%)	0 (0%)	37	
Total		123	132	255	
<u>Clinical Stage- Esophagus</u>	Stage I				<.001
		5 (4.3%)	0 (0%)	5	
	Stage IIA	28 (23.9%)	46 (37.7%)	74	
	Stage IIB	3 (2.6%)	4 (3.3%)	7	
	Stage III	44 (37.6%)	72 (59%)	116	
	Stage IV	37 (31.6%)	0 (0%)	37	
Total		117	122	239	

Table 2. Distribution of age amongst surgical and non surgical groups.					
		No Surgery	Surgery	P value	
<u>Age at first treatment</u>	Mean	65.93	58.33	<.001	
	Minimum	44	25		
	Maximum	82	77		

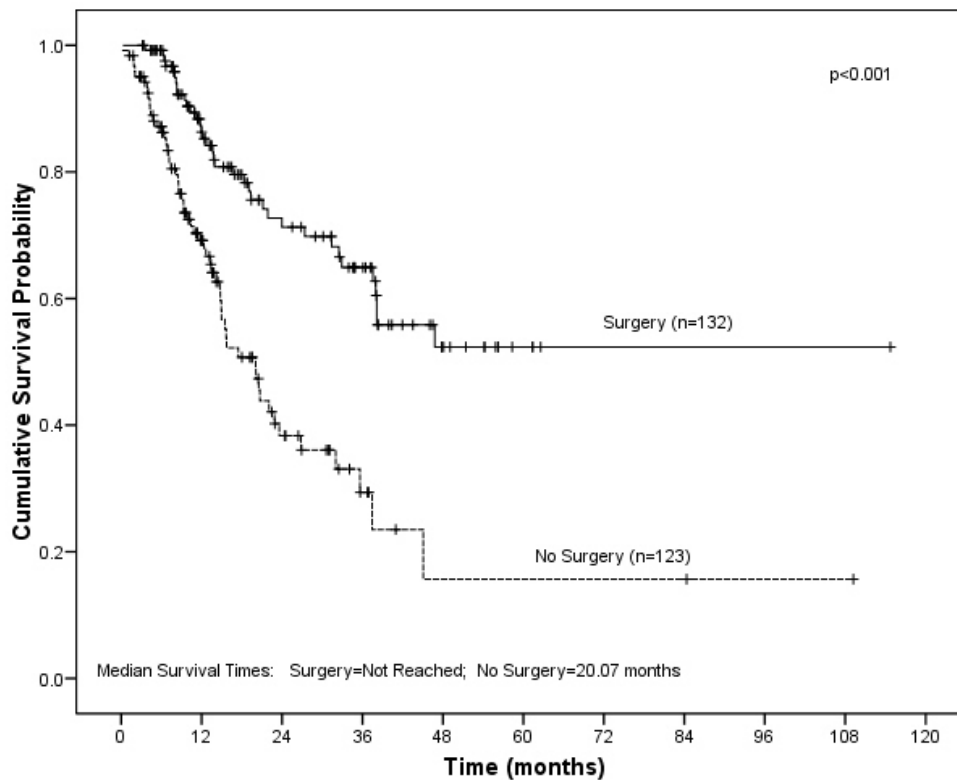
Table 3. Results of a univariate Cox regression analysis of factors associated with survival.

				95% CI for HR	
		<i>P</i> -value	Hazard Ratio (HR)	lower	upper
Clinical M					
M0	218		1.000		
M1	37	.000	2.921	1.798	4.747
Total	225				
Age at First Treatment Date					
		.006	1.029	1.008	1.050

Table 4. Results of a multivariate Cox regression analysis of factors associated with survival.

				95% CI for HR	
		<i>P</i> -value	Hazard Ratio (HR)	lower	upper
Clinical M					
M0	195		1.000		
M1	28	.004	2.349	1.321	4.175

Figure 1. Kaplan Meir disease survival curves.



Conclusion: Survival time of patients who underwent surgery was significantly longer than those who received definitive chemoradiotherapy. This difference can be attributed

to selection of patients for specific therapeutic approaches based on the stage of the cancer and associated comorbid conditions (data not shown). Our data also demonstrate that appropriate selection of patients for trimodality therapy leads to excellent survivorship (>50% at 5 years).

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