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EMBELLISHING THE TOKUHASHI and TOMITA SCORES IN THE ERA OF NEWER SYSTEMIC THERAPIES

INTRODUCTION

The Tokuhashi and Tomita Scores are used to prognosticate patients with spine metastases and to stratify these patients to appropriate interventions^{1,2}. One parameter used in these scores is the histology of lung cancer which in the original systems resulted in an overall poor score and bad prognosis. This will result in such patients not being offered spinal interventions. However, in today's era of targeted therapies, patients with lung cancer can expect a longer survival. We thus explored whether these scores should be updated in the current oncological climate.

Table 1 : Comparison of the Demographics of the study group

	Adenocarcinoma (%)	Other than Adenocarcinoma (%)
<u>Gender (n)</u>		
Male	19	6
Female	20	3
<u>Age (yrs)</u>		
Mean	61.69	61.89
Median	62	60
<u>ECOG status</u>		
0	7	0
1	19	5
2	8	3
3	4	0
4	1	1

Table 2 : Actual Survival of patients stratified according to Histology and ECGR status

	Observed Survival	
<u>Histology</u>		
Adenocarcinomas	355 days	$p=0.018$
Others	142 days	
<u>EGFR status (for adenocarcinomas)</u>		
Mutant	399.42 days	$p=0.124$
Wild type	268.31 days	

CONCLUSION

With the era of newer systemic therapies, the current predicted scores (Tomita and Tokuhashi) may not be relevant in predicting prognosis for surgical intervention^{3,4}. A proposed change may be to consider giving patients with histology of adenocarcinoma a better score instead of a general score for patients with lung cancer. More studies will need to be done to update the current predicted score to better reflect the improvement in treatment therapies and options.

MATERIALS & METHODS

Retrospective case notes review of all patients with lung cancer who had spine metastases and received radiotherapy in 2014. Various parameters were explored, notably the histology and biochemical markers. These parameters were then correlated with their Tokuhashi score, Tomita score and their actual observed survival. Patients who had post-operation radiotherapy (PORT) were excluded.

Comparison of Predicted Tomita and Tokuhashi Scores with Observed Survival for Lung Adenocarcinoma

	Number of patients (%)		
	Predicted by Tomita Score	Predicted by Tokuhashi Score	Actual Observed
< 6 mths	18 (46.15)	37 (94.87)	10 (25.64)
6-12mths	12 (30.77)	2 (5.13)	11 (28.21)
12-24mths	9 (23.08)		15 (38.46)
> 24mths			3 (7.69)

RESULTS

Out of 55 patients, 7 had PORT. The observed survival for patients was significantly different between those with adenocarcinoma (M=355.72, SD=249.94) and other histology type (M=142.00, SD=156.85). There was also significant difference between the different predicted scores and observed survival with Tomita vs observed ($p=0.006$) ; Tokuhashi vs observed ($p<0.001$) and Tomita vs Tokuhashi ($p<0.001$). Standard multiple regression analysis showed that histology is predictive of observed survival ($p=0.025$)

References:

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