



Factors Associated with Life Expectancy in Patients with Metastatic Spine Disease from Adenocarcinoma of the Lung

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Introduction

Patients diagnosed with lung cancer spinal metastases have poor patient prognoses.

Surgical intervention for spinal metastases is considered when overall life expectancy is greater than 3 months.

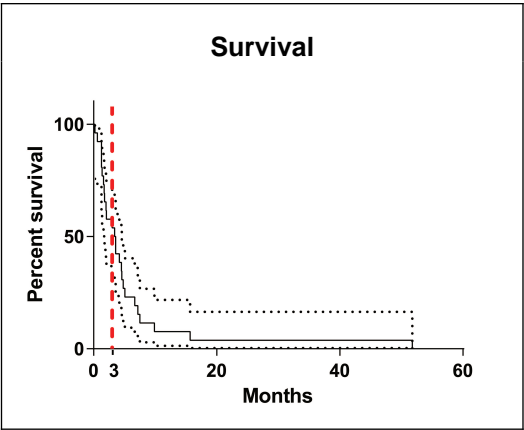
Many studies have identified prognostic factors utilizing a heterogeneous group of tumor subtypes, however few studies have analyzed lung cancer alone.

Learning Objectives

By the conclusion of this session, participants should be able to identify pre-operative prognostic factors associated with survival in patients with spinal metastasis from lung carcinoma.

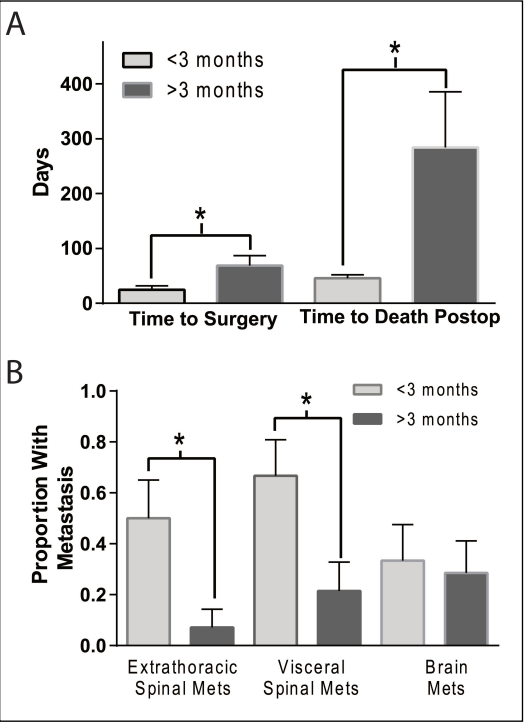
Methods

A retrospective analysis of twenty-six patients diagnosed with lung carcinoma metastatic to the spinal column was performed to determine factors associated with survival. Using the clinical cutoff for whether surgical intervention should be employed of 3 months, we stratified patients into survivors less than three months and survivors greater than three months for analysis. Demographic, preoperative, operative and postoperative factors including functional scores were collected for analysis.



Results

The median survival for all patients in our study was 3.5 months. We found that there was a statistically significant difference between the less than 3 month survival group and the greater than 3 month survival group in terms of extra-thoracic metastasis, visceral metastasis, and average postoperative modified Rankin Score.



Conclusions

Determining which patients with lung cancer spinal metastases will benefit from surgical intervention is often dictated by the patient’s predicted life expectancy. Factors associated with poorer prognosis include age, functional status, visceral metastases, and extra-thoracic metastases. Although the prognosis for patients with lung cancer spinal metastases is poor, some patients may benefit long term from surgical intervention.

References

1. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. International journal of cancer. Dec 15 2010;127(12):2893-2917.
2. Tsuya A, Kurata T, Tamura K, Fukuoka M. Skeletal metastases in non-small cell lung cancer: a retrospective study. Lung cancer. Aug 2007;57(2):229-232.
3. Tokuhashi Y, Uei H, Oshima M, Ajiro Y. Scoring system for prediction of metastatic spine tumor prognosis. World journal of orthopedics. Jul 18 2014;5(3):262-271.
4. Mitsudomi T, Suda K, Yatabe Y. Surgery for NSCLC in the era of personalized medicine. Nature reviews. Apr 2013;10(4):235-244.
5. Travis WD, Brambilla E, Noguchi M, et al. International association for the study of lung cancer/american thoracic society/european respiratory society international multidisciplinary classification of lung adenocarcinoma. Journal of thoracic oncology : official publication of the International Association for the Study of Lung Cancer. Feb 2011;6(2):244-285.
6. Claus EB. Neurosurgical management of metastases in the central nervous system. Nature reviews. Feb 2012;9(2):79-86.