Published in final edited form as:

Clin Oncol (R Coll Radiol). 2013 January ; 25(1): 74. doi:10.1016/j.clon.2012.10.001.

Nervous System Metastases from Malignant Mesothelioma: A Retrospective Case Series and Review of the Literature

Nina M. Martinez, MD, Igor T. Gavrilovic, MD, Christian Grommes, MD

Department of Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, USA

Sir - Nervous system metastases (NSM) from malignant mesothelioma (MM) are uncommon and only reported as case reports (first case reported in 1924[1]). We retrospectively analyzed a series of patients with NSM from MM in a single institution and compare time to NSM, survival after NSM and outcome based on treatment modality to reported cases in the literature.

Eight out of 1408 patients with MM were found to have NSM at our institution (brain: 5, 0.35%; epidural disease: 3, 0.21%). A total of 54 cases were reported in the literature between 1924–2010 (38 brain, 13 spine, 3 leptomeningeal disease). Median age at diagnosis of NSM was 66 at our institution and 56 years in the reported cases. Median time to NSM was 297/180 days, respectively (brain: 249/168 days, epidural: 1195/210 days). Median overall survival after diagnosis of NSM was 192/90 days (brain metastases: 183/83 days; epidural disease: 360/75 days) (Table 1). Patients receiving palliative care survived a median of 50/60 days whereas patients receiving any treatment survived 210/90 days after diagnosis of brain metastases.

By far, the most common metastatic site to the nervous system is the brain, followed by the epidural space and the leptomeninges. The development of spinal metastases can be attributed to direct extension from osseous or paraspinal masses, which may explain the longer survival seen in patients with epidural involvement in our institution. In contrast, brain metastases are most likely caused by hematogenous dissemination. In our patients, brain metastases were found with systemic relapse.

Treatment for NSM was associated with a median overall survival of approximately seven months. Our patient series and the review of previous reported cases in the literature suggest that any treatment, in particular combination therapy, is associated with prolonged survival after diagnosis of NSM.

Acknowledgements:

We thank Judith Lampron for their expert editorial assistance. This study was presented as a poster at the American Academy of Neurology in New Orleans, 2012.

REFERENCES:

1. Krumbein C, Über die Natur der Deckzellen der serösen Häute, untersucht an Hand eines primären Pleuracarcinoms. Virchows Arch, 1924 249: 20.

Table 1:

Outcome

	<u>MSKCC</u>			<u>Literature</u>		
	All	Brain	Spine/LMD	All	Brain	Spine/LMD
Time to CNS metastases [days]	297	249	1198	180	168	210
OS after CNS metastases [days]	192	183	360	90	83	75

LMD: leptomeningeal disease. OS: overall median survival. CNS: central nervous system.