

## Metastases to the cerebellum. Results and prognostic factors in a consecutive series of 44 operated patients

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**Abstract** *Background* Recent reports on large number of patients with brain metastases report that Whole Brain Radiotherapy (WBRT) and Radiosurgery (RS) should be the treatments of choice, particularly in multiple lesions cases. Among the prognostic factors, the cerebellar location was never considered, although this results in hydrocephalus, brain stem compression, ataxia, intracranial hypertension. *Materials and methods* We evaluated 44 patients with cerebellar metastases operated over 6 years. Primary lesions were: Lung (15), Breast (12),

Gastrointestinal (9), Gut (3), Ovary (2), Melanoma (1), Salivary gland carcinoma (1), Unknown (1). Lesions were <3 cm in 11 cases,  $\geq 3$  cm in 33. Average KPS scoring at admission was 69.9. Twenty nine scored  $\geq 70$ , 15 < 70. *Results* Two patients died for surgical complications, 2 died within 1 months for other causes, 2 were lost to follow up. Eight had postoperative hematoma requiring reoperation, 1 had an occipital infarction. Average KPS scoring at discharge was 76.4,  $P < 0.002$ . Those patients that had complications scored less, the difference is significant ( $P < 0.008$ ). Median survival was 8 months, 1 year survival rate 29.9%. Survival was correlated with either admission or discharge KPS ( $\geq 70$  vs.  $< 70$ ):  $P = 0.05$  and  $P = 0.0001$  respectively. None of the other parameters considered reached statistical significance. *Conclusions* Open microneurosurgery is probably still the most effective therapy in improving survival and KPS in patients with large cerebellar metastases, given that the proper surgical technique is used and that complications do not occur. Specific data on cerebellar metastases as an independent subgroup are needed from radiosurgical series.

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### Introduction

The incidence of intracranial metastases in cancer patients varies from 20% to 40% [1, 2]. Other reports [3] estimate the number of new intracranial metastases that are yearly diagnosed in the US at 100,000–170,000. Of these, 45–65% are likely to be solitary and should be evaluated also by neurosurgeons [4].