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A tale of two sites: an audit of central nervous system metastases in two Johannesburg tertiary centres

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ABSTRACT

Background: Literature reports the most common neoplasms of the CNS as metastases. Most studies are from the US and Europe with a paucity of data in the African setting.

Objective: To provide information among patients with histologically confirmed CNS metastases treated at the neurosurgical units of the University of the Witwatersrand, namely at CHBAH and CMJAH.

Methods: A retrospective record review of patients with histologically confirmed CNS metastases, presenting between 01 January 2015 and 31 December 2019 was conducted. The following data were collected and analysed: demographic, clinical, radiological and histopathological data.

Results: 88 patients were included in the study. The frequencies of brain and spine metastases were 13% and 48% respectively compared to all other operated primary tumours. More females were prevalent at 51.7% in the brain metastases cohort, while males were more prevalent in the spine metastases cohort at 57.1%. In brain metastases patients the median age at presentation was 49 and for those with spine metastases the mean age was 47.1. The distribution for brain metastases was: 65% supratentorially; 20% infratentorially; 15% mixed. The distribution for spine metastases was: thoracic 32.1%; lumbosacral 28.5%; cervical 14.3%, mixed 25%. The most prevalent histopathologies for brain metastases were: lung 21.7%; breast 11.7%; melanoma 11.7%. The most prevalent histopathologies for spine metastases were lymphoma and plasma cell neoplasms each comprising 21.4%.

Conclusion: More females presented with brain metastases and predominantly more males had spine metastases. There was a younger age of presentation compared to most studies conducted in Africa and globally.