

Surgical Resection of a Large Brain Metastasis in a Patient with Metastatic Osteosarcoma: A Care Report

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Background

Brain metastasis in osteosarcoma is a rare but frequently devastating disease. In this case report, we present a patient with aggressive osteosarcoma and multiple relapses who underwent successful surgical intervention for brain metastasis

Methods

Records from our EMR were reviewed. Consent to publish this data was obtained from patient and family per IRB requirements.

Results

A 19-year-old male who recently immigrated to the US to seek further medical care. He was diagnosed with left tibial osteosarcoma in 2020 and underwent surgical resection and chemotherapy, followed by thoracotomy for excision of left chest wall metastasis in 2023. In 2024, he was found to have a large left temporal skull lesion invading into the temporalis for which he underwent radiation and chemotherapy. He presented to us with sudden onset somnolence and nausea and vomiting. Imaging showed a large left temporal with midline shift and hydrocephalus, and an exophytic component extending outside the skull. He did not have any focal deficits. We placed a right-sided EVD to relieve the hydrocephalus. He underwent left a temporal approach with ENT's assistance for mastoid drilling to resect the intra- and extracranial components of the mass, followed by a cranioplasty. The patient tolerated surgery very well and had no postoperative deficits. Postoperative MRI showed subtotal resection. He is planned to undergo further chemotherapy. Radiation oncology recommended holding off on repeat radiation at this time in favor of close surveillance imaging.



Discussion

Osteosarcoma is a rare and debilitating malignant bone tumor. It is the most common bone malignancy in children and adolescents with an annual incidence of 3.4 per million per year. Osteosarcoma of the skull is exceedingly rare, representing around 2% of osteosarcoma cases. This is the fourth case reported to date. Temporal bone tumors commonly presents with hearing loss and facial nerve palsy, but many patients are asymptomatic. Surgical management primarily consists of temporal bone resection. Special care must be taken to preserve facial nerve function if possible.

Conclusions

Brain metastases are uncommon in osteosarcoma. They can be successfully resected with





good outcomes.



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