A Rare Encounter: Extracranial Meningioma Mimicking Musculoskeletal Neoplasms

Liza Salloum
The University of Texas Rio Grande Valley

Jennifer Rojas Huen
The University of Texas Rio Grande Valley

Ricardo Serna
The University of Texas Rio Grande Valley

Andrew Kolodziej
The University of Texas Rio Grande Valley, andrew.kolodziej01@utrgv.edu

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Authors: Salloum, L[1]; Huen, J[1].; Serna, R.[1]; Kolodziej, A.[2]
[1]University of Texas Rio Grande Valley–Valley Baptist Medical Center Internal Medicine Residency
[2]University of Texas Rio Grande Valley–School of Medicine

Background:

Meningiomas are the most common primary brain tumor in adults. While commonly encountered intracranially, 2% manifest extracranially. Although usually benign, 10% of meningiomas can become malignant. Despite their relatively high incidence, they are often difficult to diagnose due to long asymptomatic periods, often diagnosed after mass effect symptoms occur. This case explores the intricacies of diagnosing and managing an extracranial meningioma that mimicked musculoskeletal neoplasms.

Case Presentation:

A 70-year-old female, with a history of hypertension and dyslipidemia, presented with diplopia, blurry vision, and intermittent right orbital pain. A recent CT had identified a slow-growing right temporal mass, yet she remained asymptomatic, and she did not have any additional follow-up due to financial burden. She denied any personal or immediate family history of malignancy or extensive radiation exposure. Vitals and labs were unremarkable. Physical examination revealed a fixed, non-tender soft tissue mass extending from the right frontal to the temporal region, causing significant right eye proptosis.

Imaging studies confirmed a large soft tissue mass in the right maxillofacial area with adjacent bone destruction, infiltrating nearby musculature.A multidisciplinary team, including neurosurgery, otolaryngology, and hematology/oncology, collaborated for surgical planning and outpatient follow-up for treatment. A right temporalis biopsy disclosed an extracranial meningioma involving skeletal muscle bundles. Immunohistochemical stains showed tumor cells positive for EMA and SSTR2a and negative for pancytokeratin, PR, GFAP, SOX10, desmin, SMA, CD34, synaptophysin, chromogranin, and GATA3. No features of atypical or malignancy were reported.

Despite negative metastatic workup, the extensive osteolytic and skeletal muscle invasion presented challenges.The patient was discharged for follow-up with oncology and otolaryngology, emphasizing the need for individualized treatment

Conclusions:

This case demonstrates a rare but aggressive extracranial meningioma in a patient who did not undergo evaluation and treatment early on due to not being referred to the appropriate specialists as well as the broad differential associated with her initial symptoms. This patient did not undergo an MRI early on due to the large financial barrier associated with obtaining this imaging, likely contributing to the increased invasion of the tumor when she presented to the hospital. She requires extensive care and follow-up from a multidisciplinary team including oncologists, otolaryngologists, radiation oncologists, and neurosurgery.

Sources:

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