

## Imaging Features and Diagnosis of Intraorbital Meningioma: A Case Report

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### Abstract

Intraorbital meningiomas are rare, benign tumors originating from the meningotheial cells of the arachnoid membrane. This case report describes a 67-year-old female patient with a history of invasive ductal carcinoma who presented with severe headaches and dizziness. MRI identified an intraorbital, intra-conical mass with typical imaging features, including intermediate T2 signal, hyperintensity on FLAIR, and strong post-contrast enhancement. The mass was extra-axial, round, well-defined, and caused scalloping of the temporal bone, suggesting its compressive effect. MRI played a crucial role in accurately characterizing the lesion and distinguishing it from other orbital pathologies.

**Keywords:** Meningioma; Intra Orbital; MRI

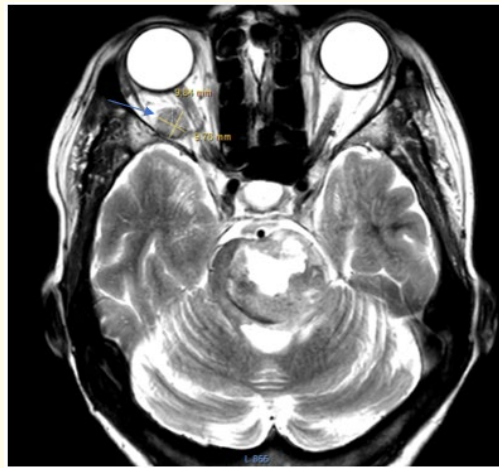
### Introduction

Intraorbital meningiomas are rare benign tumors. They were first discovered by Scarpa in 1816. MRI remains the key examination for better characterization of these tumors due to its superior ability to delineate the extent and nature of the lesion within the intricate anatomy of the orbit.

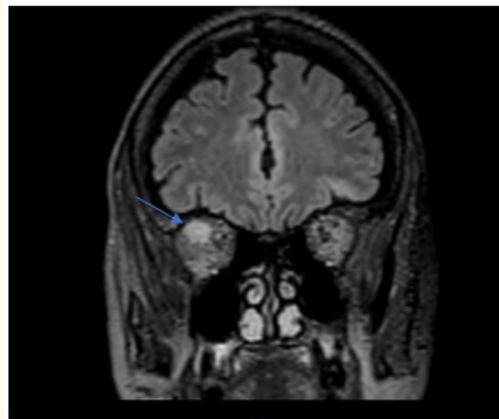
### Case Presentation

We report the case of a 67-year-old female patient with a history of invasive ductal carcinoma (IDC) of the breast, who presented to the emergency department with severe headaches and dizziness. A CT scan of the brain revealed necrotic-hemorrhagic lesions, prompting the need for an MRI for better characterization.

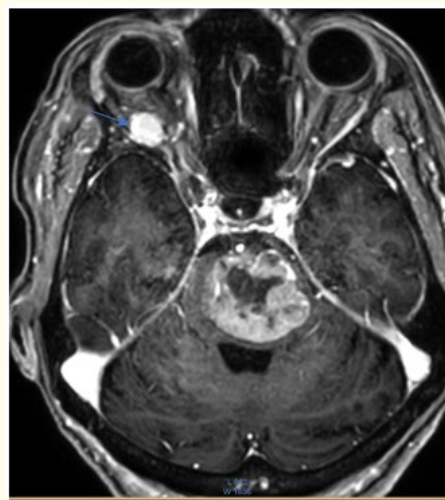
The patient was admitted to our department for a brain MRI, which revealed secondary supra- and infratentorial lesions. Additionally, the MRI identified an extra-axial, intraorbital right mass that was intra-conical, round, well-defined with regular borders, and broadly based on the lateral rectus muscle. The mass exhibited tissue signal characteristics (intermediate signal on T2 and hyperintense on FLAIR), showed no diffusion restriction, and demonstrated strong enhancement after gadolinium injection. It also caused scalloping on the right temporal bone, measuring 9.84 x 9.67 mm (Figure 1).



A



B



C

**Figure 1:** A: A axial T2 FLAIR section, B: A coronal T2 section, C: A axial section after injection of GADO.

### Conclusion

Intraorbital meningiomas, while rare, should be considered in the differential diagnosis of orbital masses, especially when imaging reveals a well-defined, extra-axial lesion with characteristic enhancement patterns. MRI remains the gold standard for diagnosis due to its superior soft-tissue contrast and ability to detail lesion extent and anatomical relationships. Early diagnosis through imaging can guide appropriate clinical management and prevent complications related to mass effect.

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