We thought it was a meningioma. Other dural based lesions mimicking meningioma on preoperative radiological imaging

Poster 2779

Penelope E Nussbaum, Eric S. Nussbaum, Alex Mendez, Patrick Graupman, Jodi Lowary, Leslie Nussbaum

National Brain Aneurysm & Tumor Center, Nasseff Cyberknife Center, Divisions of Neurosurgery Regions Hospital and Gillette Children’s Hospital, Twin Cities, MN, USA
Disclosure

• None
Introduction

- Most well-circumscribed, enhancing, dural based lesions prove to be meningioma

- We describe a series of 10 patients in whom meningioma was diagnosed based on preoperative imaging, but final pathological diagnosis revealed a different entity
Methods

• We retrospectively reviewed a database of over 1000 patients managed from 2007 to 2017 who underwent craniotomy for extra-axial tumor
• We identified patients whose preoperative diagnosis was meningioma based on imaging but for whom final pathological diagnosis was another lesion
• Complete medical records, neuro-imaging studies, pathology reports were reviewed in these cases
Results

• 10 patients had an unexpected pathological diagnosis:
  • Solitary fibrous tumor meninges – 3
  • Dural based metastasis (lung, breast, prostate) - 3
  • Angiomatoid fibrous histiocytoma – 1
  • Rosai Dorfman – 1
  • Osteogenic sarcoma – 1
  • Calcifying pseudoneoplasm neuraxis – 1
Results - II

• Retrospective imaging review identified following criteria as risk factors for tumor not being a meningioma:
  
  • Extremely dense calcification
  • Significant brain edema despite small lesion size
  • History of metastatic cancer
Discussion

- Treatment paradigms for well-circumscribed enhancing dural-based lesions rely on the fact that most such lesions prove to be meningioma.
- Some of the lesions we encountered such as Rosai Dorfman and CAPNON are very benign and can be managed with conservative therapy alone.
- Metastatic lesions in contrast may require more urgent therapy than benign meningioma.
Summary

• In a large series of patients treated for tumors that were felt to be meningioma based on preop imaging, we identified 10 patients with “meningioma mimickers”

• It is important for neurosurgeons, neuroradiologists, and neuro-oncologists to keep this in mind when deciding treatment paradigms for such patients, particularly with the growing number of patients managed with follow-up imaging or SRS who may never have a biopsy

• Thank you!