Incidental meningioma

- Predicting epilepsy in patients diagnosed with intracranial meningiomas: A systematic review and meta-analysis of clinical and anatomical risk factors
- Incidental brain uptake of Gallium-68 DOTATATE positron emission tomography/computed tomography scan in patients with neuroendocrine tumors: a case report and literature review
- Solitary brain metastasis mimicking meningioma as the initial presentation of concurrent pulmonary and breast sarcomatoid carcinoma in a male patient: A rare entity with literature review
- Radiation-induced cerebral cavernous malformations
- Heterotopic calcification in a child presenting as acute on chronic myelopathy
- Incidental Olfactory Groove Meningioma: A Case Report
- Case Report: Collision Tumor Involving Diffuse Large B-Cell Lymphoma (DLBCL) and Meningioma
- Single-Fraction Stereotactic Radiosurgery as Primary Management of Sporadic Meningiomas: A 25-Year Cohort Study

Meningiomas are the most common primary intracranial tumors, and most remain asymptomatic throughout the patient's life.

Asymptomatic meningiomas with calcification seen on CT and/or Hypointensity on T2 weighted image MRI appeared to have a slower growth rate [1].

The routine use of CT & MRI for numerous indications inevitably results in the discovery of incidental (asymptomatic) meningiomas. In a population-based study (the study population was middle-class Caucasians and result, may not be generalizable to other groups), incidental meningiomas were seen in 0.9% of MRIs. In another series, 32% of primary brain tumors seen in imaging studies were meningiomas, and 39% of these were asymptomatic.

Of 63 cases followed for > 1 year with nonsurgical management, 68% showed no increase in size over an average follow-up of 36.6 mos, whereas 32% increased in size over 28 mos average follow-up.

Data are lacking to make evidence-based management guidelines. A suggestion is to obtain a follow-up imaging study 3–4 months after the initial study to rule out rapid progression, and then repeat annually for 2–3 years. The development of symptoms would prompt performing a study at that time. Treatment is indicated for lesions that produce symptoms that cannot be satisfactorily controlled medically, or for those that demonstrate significant continued growth on serial imaging studies. When surgery was performed, the perioperative morbidity rate was statistically significantly higher in patients > 70 years old (23%) than in those < 70 (3.5%).

Asymptomatic intracranial meningioma is a benign disease; however, nearly two-thirds of patients experience tumor growth and one-third of untreated patients eventually require neurosurgical interventions during watchful waiting [2].

In the series of Jadid et al., long-term tumour growth of incidentally detected asymptomatic

meningiomas appeared to be much higher than expected. This information needs to be considered when discussing surgery, since the indication for surgery may be stronger than previously stated, especially for younger patients with tumours that can be reached at low risk [3].

Niiro et al., stated that in elderly patients with asymptomatic meningiomas, careful clinical follow up with imaging studies is important. The imaging features mentioned in his article may contribute to prediction of tumour growth [4].

For Yoneoka et al., clinical and radiological observations would be advisable for these patients (especially young patients and patients with a large tumour), in view of the presence of rapidly growing tumours in some of the patients [5].

Hashimoto et al., observed that Skull base incidental meningiomas (IDM) tend not to grow, which is different from non-skull base tumors. Even when IDMs grow, the rate of growth is significantly lower than that of non-skull base tumors. The same conclusion with regard to biological behavior was confirmed in symptomatic cases based on MIB-1 index analyses. This findings may impact the understanding of the incidental intracranial meningioma natural history, as well as strategies for management and treatment of IDMs and symptomatic meningiomas [6].

Management

Incidental meningioma management.

Asymptomatic meningioma case series

see Asymptomatic meningioma case series.

References

1)
Kuratsu J-I, Kochi M, Ushio Y. Incidence and Clinical Features of Asymptomatic Meningiomas. J Neurosurg. 2000; 92:766–770
2)
Kim KH, Kang SJ, Choi JW, Kong DS, Seol HJ, Nam DH, Lee JI. Clinical and radiological outcomes of proactive Gamma knife radiosurgery for asymptomatic meningiomas compared with the natural course without intervention. J Neurosurg. 2018 May 18:1-10. doi: 10.3171/2017.12.JNS171943. [Epub ahead of print] PubMed PMID: 29775154.
3)
Jadid KD, Feychting M, Höijer J, Hylin S, Kihlström L, Mathiesen T. Long-term follow-up of incidentally discovered meningiomas. Acta Neurochir (Wien). 2015 Feb;157(2):225-30. doi: 10.1007/s00701-014-2306-3. Epub 2014 Dec 14. PubMed PMID: 25503298.
4)
Niiro M, Yatsushiro K, Nakamura K, Kawahara Y, Kuratsu J. Natural history of elderly patients with asymptomatic meningiomas. J Neurol Neurosurg Psychiatry. 2000 Jan;68(1):25-8. PubMed PMID: 10601396; PubMed Central PMCID: PMC1760589.
5)
Yoneoka Y, Fujii Y, Tanaka R. Growth of incidental meningiomas. Acta Neurochir (Wien). 2000;142(5):507-11. PubMed PMID: 10898357.

6)
Hashimoto N, Rabo CS, Okita Y, Kinoshita M, Kagawa N, Fujimoto Y, Morii E, Kishima H, Maruno M, Kato A, Yoshimine T. Slower growth of skull base meningiomas compared with non-skull base meningiomas based on volumetric and biological studies. J Neurosurg. 2012 Mar;116(3):574-80. doi: 10.3171/2011.11.JNS11999. Epub 2011 Dec 16. PubMed PMID: 22175721.