

# Falx meningioma case series

## 2017

Murrone et al. analyzed 95 patients with falcine meningiomas who underwent surgical removal of their lesion at our institution between 2001 and 2014. Surgical management of these patients, focusing on anatomical and clinical features is described. Thus, based on our series, a surgical algorithm, classifying the falcine meningioma into four types, according to location at the falx, and using an ipsilateral interhemispheric approach in supine or prone position, is described. The median length of follow-up was 7.1years (range 1.6-12.3years). Approximately one-third of all patients was asymptomatic, headaches occurred in 27 patients, seizures in 14 cases, and lower-extremity weakness in 9 cases. In this series, the middle third of the falx was the most frequently involved site (55,78%), while the anterior third (26,31%) and the posterior type (17,89%) were less common. The transitional and meningotheial types occurred in 69 of patients and a high grade in only two patients. Compared with previous series in literature, there was no mortality and Gross Total Resection was obtained in 83 (87,5%) cases. Three of 95 patients experienced new or worsened neurological deficits after surgery while other complications were relatively in only 6 cases. This study presents our good results about removal of the tumor while preserving major cortical veins and the sinus using advanced microsurgical tools <sup>1)</sup>.

## 2010

retrospectively evaluated our surgical experience from June 2004 to January 2010. Seventy patients harboring falcine meningiomas were included and submitted for surgical resection. All historical records, office charts and images were reviewed in order to sample the most important data regarding epidemiology, clinical pictures, radiological findings and surgical results, as well as the main complications. The patients were divided into three main groups: anterior third 32 patients (Group A), middle third 15 patients (Group B), 23 patients in the posterior third of falx (Group C).

Results: In Group A, total macroscopic resection was achieved in 31 out of 32 cases (96.87%). Twenty five patients had Rankin 0, five patients had Rankin 1-2, two patients had Rankin 6. In Group B (15 patients), 10 patients had gross resection and Rankin 0, four patients had Rankin 1-2 and one patient had Rankin 6. In Group C (23 patients), 20 patients were absolutely able, Rankin score 0, after six months postoperative period (83.3% had excellent results) and no mortality. Four cases had Rankin score 1 - 2 (16.6%). Ten cases (43.47%) had Simpson I resection and ten cases (43.47%) had Simpson II.

Conclusion: Despite larger lesion volumes, Group A meningiomas had a better outcome due to the position they were in, the tumor and surrounding structures. The preoperative preparation and surgical planning can preserve sagittal sinus; but in some cases, this is not possible. Sagittal sinus resection, as proven by this paper, is still a factor of bad surgical outcome. In the middle and posterior third, resection of sagittal sinus is a factor of a bad outcome, due to cerebral infarction <sup>2)</sup>.

## 2007

68 patients with meningiomas arising from the falx underwent craniotomies. There were 22 male and 46 female patients (1 : 2.1). Mean age was 55 years and ranged from 14 to 77 years. Locations of falcine meningioma were; the anterior third in 33 cases, middle in 20, and [falcine meningioma of the posterior third](#) in 15.

Mean tumor volume was 42 cc and ranged from 4 to 140 cc. In 58 of the 68 patients tumors were totally removed. Additional surgery for recurrence was performed in 6 patients over 15 years. Of these 6 patients, only two patients underwent gross total tumor resection at first operation; the other four underwent subtotal tumor resection. Based on pathologic reports, the largest tumor subtype was transitional. There were four patients with a high grade tumor-three atypical and one anaplastic meningioma. Of the 68 patients, 59 achieved a good outcome (no neurological deficit or recurrence), six had temporary complications, two suffered new permanent postoperative deficits, and the remaining one died due to severe brain swelling despite postoperative intensive care. Extent of surgical resection was found to be significantly related to tumor recurrence.

Falcine meningioma accounted for 8.5% of intracranial meningiomas and the [transitional meningioma](#) was the most common subtype of falcine meningioma. Gross total resection of tumor was the single most important predictor of an improved surgical outcome <sup>3)</sup>.

1)

Murrone D, De Paulis D, di Norcia V, Di Vitantonio H, Galzio RJ. Surgical management of falcine meningiomas: Experience of 95 patients. J Clin Neurosci. 2017 Mar;37:25-30. doi: 10.1016/j.jocn.2016.11.002. Epub 2016 Nov 22. Review. PubMed PMID: 27884604.

2)

Pires de Aguiar PH, Aires R, Maldaun MV, Tahara A, de Souza Filho AM, Zicarelli CA, Ramina R. Is sagittal sinus resection in falcine meningiomas a factor of bad surgical outcome? Surg Neurol Int. 2010 Oct 25;1:64. doi: 10.4103/2152-7806.71983. PMID: 21125007; PMCID: PMC2980903.

3)

Chung SB, Kim CY, Park CK, Kim DG, Jung HW. Falx meningiomas: surgical results and lessons learned from 68 cases. J Korean Neurosurg Soc. 2007 Oct;42(4):276-80. doi: 10.3340/jkns.2007.42.4.276. Epub 2007 Oct 20. PubMed PMID: 19096556; PubMed Central PMCID: PMC2588203.

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