Sellar meningioma

- Sellar collision tumors: difficulties of preoperative neuroimaging and selection of surgical approach. Case reports and literature review
- Radiomic study of common sellar region lesions differentiation in magnetic resonance imaging based on multi-classification machine learning model
- Intraoperative Augmented Reality Visualization in Endoscopic Transsphenoidal Tumor Resection Using the Endoscopic Surgical Navigation Advanced Platform (EndoSNAP): A Technical Note and Retrospective Cohort Study
- Multiple meningiomas with varying MRI features and postsurgical outcomes: A case report
- Metastatic Intracranial Choriocarcinoma in the Absence of a Primary Lesion: A Case Report
- Coexisting sellar Rathke cleft cyst and planum sphenoidale meningioma: illustrative case
- A Successful Control of the Intraoperative Bleeding from McConnell's Artery during Fully Endoscopic Resection of Planum Sphenoidale Meningioma Using Bone Chip and Bioglue : A Case Report
- Sellar and perisellar meningiomas: effects on pituitary function in a Spanish cohort observational study

---

see also suprasellar meningioma

A **sellar meningioma** refers to a meningioma located in the **sellar region**, which is the area of the brain where the **pituitary gland** is situated, within the **sella turcica** (a bony structure at the base of the skull). Meningiomas are benign tumors that develop from the meninges, the membranes covering the brain and spinal cord. In the case of a sellar meningioma, the tumor grows near the pituitary gland and can put pressure on surrounding structures, such as the optic nerve or optic chiasm.

The treatment for a sellar meningioma depends on factors like the tumor's size, symptoms, location, and the patient's overall health. Treatment options include:

1. **Observation**: If the meningioma is small and asymptomatic, the doctor may recommend regular follow-up with MRI scans to monitor for any growth.

2. **Surgery**: In many cases, surgery is required to remove the tumor. The surgical approach depends on the tumor's location and may be complex due to the proximity of critical structures like the pituitary gland and optic nerves.

3. **Radiotherapy**: If the tumor cannot be completely removed or if a residual tumor is present after surgery, radiotherapy may be used to target and destroy remaining tumor cells.

A precise diagnosis and treatment plan are important for managing sellar meningiomas, as the pituitary gland and optic structures are crucial for hormone regulation and vision.

Meningiomas account for about 1% of sellar masses. Although they can mimic pituitary neuroendocrine tumors, they are more vascularized and invasive.

Multicenter and retrospective studies

A multicenter and retrospective study of patients with S/PS meningiomas attended in 20 tertiary Spanish centers.

Results: 165 patients, 123 (74.5%) females, with a median age of 61.4 [51-71] years were analyzed. At presentation, 115 (69.7%) had visual disturbance, 62 (37.6%) headaches, 46 (27.9%) cranial nerve palsy, and 34 (26.2%) hypopituitarism. The median tumor diameter was 29.1 [22-35.5] mm and cavernous sinus infiltration was detected in 95 (59%). As initial treatment, 128 (77.6%) underwent surgery, 25 (15.2%) received radiotherapy and 12 (7.3%) were clinically and radiologically monitored. Among operated patients, gross total resection (GTR) was achieved in 44 (34.4%), whereas in 84 (65.6%) the tumor was incompletely removed. Overall median follow-up was 5.7 [2.9-9.2] years. After treatments, hypopituitarism was present in 86 (53.4%) patients at the last evaluation, and it was associated with surgery extension (subtotal or GTR) but not with tumor subtype, type of radiotherapy, or radiation dose received.

S/PS meningiomas affect the pituitary function in 25% of the cases. However, after the implementation of treatments, hypopituitarism prevails in more than 50% of the cases. They are relatively large tumors, and GTR is achieved in one-third of the cases in which hypopituitarism is more prevalent [1].

To gain insights that would enhance our ability to establish a pre-surgical diagnosis of meningioma, we performed a retrospective study of these tumors. Query of the surgical pathology database identified 1,516 meningiomas operated at our institution between January 2000 and May 2012. Cases were matched to the radiology database to identify a strictly defined sellar and/or suprasellar location. We identified 57 meningiomas. F: M ratio was 6:1. The mean age was 52 years (median 50, range 30-78). The most common symptoms were visual disturbance (58%), headache (16%), and incidental findings (12%). The mean duration of symptoms was 13 months. Hyperprolactinemia was found in 36%, witha mean value of 51.6 ng/ml (median 41.8, range 22.5-132). The mean maximal diameter was 2.9 cm (median 2.7, range 0.9-6.8), and most tumors enhanced homogeneously on MRI after gadolinium. A “dural tail” sign was reported in a third. The radiologist reported “likely meningioma” in 65%, “possible meningioma” in 8.7%, and pituitary neuroendocrine tumor in 11%. After surgery, visual disturbances improved in most patients (80%) but headache only in 7%. Post-operative complications at 1 and 3 months occurred at 38.6 and 33.3% respectively. There was no mortality. Sellar/suprasellar meningiomas represent 4% of all meningiomas and have a particularly high female predominance. The radiologist suggests the diagnosis in approximately 2/3 of the cases. An improved method to differentiate preoperatively these tumors from adenomas would be desirable [2].

1)
Guerrero-Pérez F, Biagetti B, Paja-Fano M, Menéndez-Torre EL, Rivero G, Dios E, Hanzu FA, Martín Rojas-Marcos P, Irigaray A, Moure Rodríguez MD, García-Centeno R, González Fernández L, Enseñat J, Mora M, Villar-Taibo R, Ortiz García IM, Araujo-Castro M, Gándara C, Ollero García MD, Tenorio-Jiménez C, Novo-Rodríguez C, Civantos S, Simó-Servat A, Aulinas A, Asla Q, Cordido F, Novoa-Testa I, Xifra G, Ayala-Conte M, Zamarrón Á, García Berrocal MI, Iglesias P; Neuroendocrinology Task Force of Spanish Society of Endocrinology and Nutrition. Sellar and perisellar meningiomas: effects on pituitary function

in a Spanish cohort observational study. Pituitary. 2024 Dec 28;28(1):12. doi: 10.1007/s11102-024-01484-y. PMID: 39733084.

2)

Kwancharoen R, Blitz AM, Tavares F, Caturegli P, Gallia GL, Salvatori R. Clinical features of sellar and suprasellar meningiomas. Pituitary. 2014 Aug;17(4):342-8. doi: 10.1007/s11102-013-0507-z. PubMed PMID: 23975080.