Case Lesson 34-2025

Sinonasal Glomangiopericytoma Mimicking Pituitary Adenoma: A Case Presentation and Literature Review

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Introduction

Sinonasal glomangiopericytoma (GPC), historically grouped under hemangiopericytomas, is a rare vascular neoplasm of the sinonasal tract, accounting for less than 0.5% of all sinonasal tumors. It is typically characterized by indolent growth, vascularity, and potential for local recurrence, though metastases are uncommon. Advances in immunohistochemistry, particularly nuclear β-catenin expression, have improved diagnostic accuracy.

Management is generally surgical, with complete endoscopic excision being the standard of care. However, adjunctive treatments such as stereotactic radiosurgery are rarely reported. Here, we present a unique case of a 42-year-old woman with sinonasal GPC, treated with endoscopic excision followed by CyberKnife stereotactic radiosurgery (SRS), and review current literature on imaging, management, and long-term follow-up.

Case Presentation

A 42-year-old woman was presented with progressive visual impairment over the last 4 years, initially affecting the left eye and later involving both eyes and lately recurrent epistaxis. Ophthalmological consultation was obtained at the onset of symptoms and again two weeks prior to admission, for a pituitary macroadenoma.

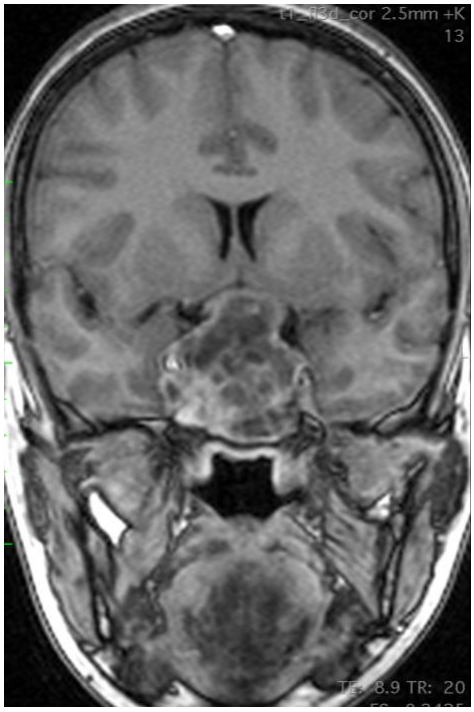
She has a 4.5-year history of amenorrhea. Endocrinological evaluation at that time revealed hyperprolactinemia, for which she was treated with cabergoline. She also had Hashimoto's thyroiditis and is under treatment with levothyroxine.

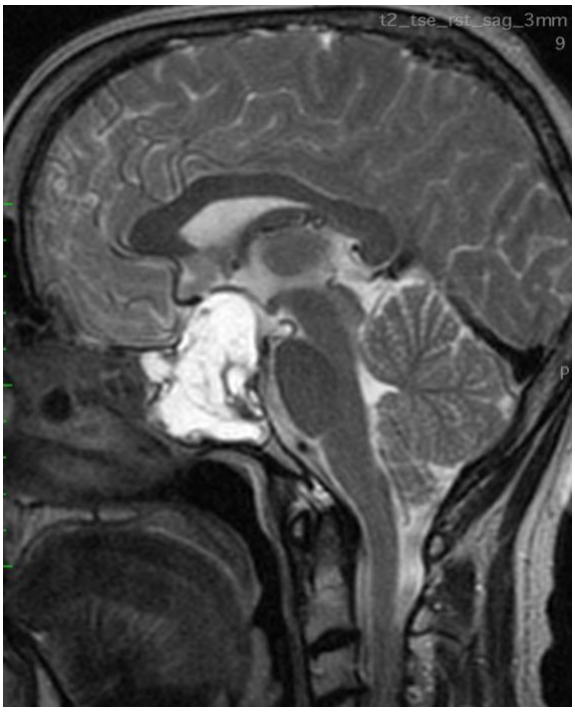
Gynecological follow-up addressed persistent amenorrhea, and she was prescribed oral contraceptives (AnNa), after which menses resumed. She also reported intermittent elevated prolactin values.

Ophthalmological evaluation revealed Bitemporal hemianopsia

CT and MRI demonstrated a well-circumscribed enhancing lesion involving the right nasal septum with extension into the sphenoid and ethmoid sinus without skull base erosion.

Chondromesenchymal hamartoma was suggested (Prof A.Rroji).





The patient underwent endoscopic endonasal tumor removal with negative resection margins (NTR confirmed intraoperatively with neuronavigation).

Histopathology showed a well-circumscribed subepithelial tumor composed of bland spindle to oval cells arranged in fascicles, storiform, and diffuse pattern, with prominent blood vessels. Cells had elongated plump nuclei with indistinct cell border. No mitotic activity or necrosis were noted. Some tumour cells show cytoplasmic positivity with CD99, and some tumour cells show membranous positivity with CD99.

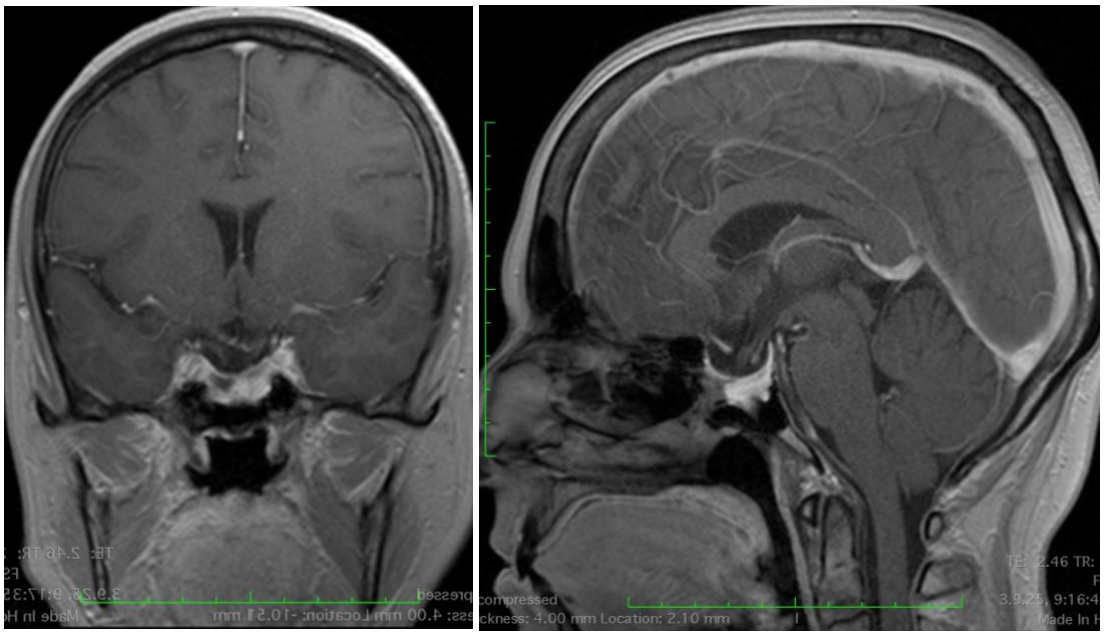
The tumour cells are negative for LCA, CD56, synaptophysin, S100, cytokeratin AE1/3CD34, EMA, GFAP. The MIB1 showed low proliferation index (approximately 3%).

The diagnosis of glomagiopericytoma was favored.

We recommended radiosurgery and she received CyberKnife SRS as an adjuvant measure accordingly with 5 fractions to a total dose 2250 cGY in CyberKnife device using 6D-Skull tracking system with stereotactic radiosurgery technique.

Results

The post-treatment course was uneventful. The patient remained asymptomatic, with no evidence of tumor recurrence or progression on MRI at 3-year follow-up. Endoscopic surveillance confirmed intact mucosa and no residual lesion.



Discussion

Our case highlights a multimodal management approach for sinonasal GPC, incorporating endoscopic resection with adjuvant stereotactic radiosurgery.

Review of Literature:
- Asimakopoulos et al. (2016) reviewed diagnostic and therapeutic advances, emphasizing the role of imaging and endoscopic surgery but reported recurrence rates up to 40% despite complete excision.
- Al-Jobory et al. (2018) provided the longest follow-up data, showing recurrences even after 12 years, underlining the importance of lifelong surveillance.
- Gordon et al. (2020) updated clinical management strategies, supporting advanced imaging and minimally invasive techniques for diagnosis and excision.
- Kazi et al. (2021) presented a case series reinforcing endoscopic excision as the gold standard, with excellent outcomes but stressed vigilance for recurrence.

While adjuvant radiotherapy has limited utility due to relative radioresistance, stereotactic radiosurgery may offer precise, high-dose targeting of microscopic residual disease. To our knowledge, few reports have documented its role in sinonasal GPC. Our case suggests it can be considered in selected patients at high risk of recurrence or with close/positive margins.

Conclusion

Sinonasal glomangiopericytoma is a rare vascular tumor with excellent prognosis after complete resection but a significant risk of local recurrence. This case illustrates the successful integration of endoscopic surgical excision with Gamma Knife stereotactic radiosurgery, resulting in durable disease control.

Based on literature, lifelong endoscopic and radiologic surveillance remains essential due to late recurrence potential. Future studies should explore the role of SRS as an adjunctive modality in select high-risk cases.

References

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