Commentary

Tumors in suprasellar area are always challenging with respect to diagnosis and treatments. Preoperative differential diagnosis is very important since the approach to lesions can vary between different types of tumors. This is especially critical in rural areas where we do not have all diagnostic studies available. In this article, published in the current issue of the *Journal of Neurosciences in Rural Practice*, authors report a case of a hypothalamic glioma masquerading as a craniopharyngioma on imaging along with a review of both the tumors.[1]

Since the above-mentioned tumor was a chiasmatic/hypothalamic glioma, I would like to add a brief review about the optic pathway gliomas from a surgeon's perspective. These are the tumors most commonly seen in pediatric ages. They constitute a broad spectrum of tumors from a fusiform dilatation of optic nerve or chiasm to giant suprasellar tumors. Certain amount of the patients has neurofibromatosis. Approximately 11-30% of NF1 patients have these tumors and bilateral tumors are more commonly seen in these patients.[2] Almost 30% of these tumors are located at prechiasmatic area and the rest in chiasmatic or postchiasmatic locations (hypothalamus, 3rd ventricle, optic tractus).[3]

Several classifications have been used on these tumors.[4-6] Mc Coullough and Epstein have classified optic pathway tumors according to their posterior extension.[4] According to this: T1: unilateral optic nerve involvement, T2: bilateral optic nerve involvement, T3: chiasmatic involvement, and T4: hypothalamus/thalamus involvement. In another classification, Wisoff classified them as prechiasmatic optic gliomas, diffuse chiasmatic optic gliomas and exophytic chiasmatic/hypothalamic gliomas.[5] Yaşargil's classification looks similar with Wisoff's but he subclassifies prechiasmatic ones as fascicular, retrobulbar, intraorbital, and retro-orbital gliomas.[6] Yasargil also takes the tumor size into consideration and classifies the tumors as giant if they are larger than 6 cm.

Histopathologically, these tumors are low-grade gliomas and most of them are pilocytic astrocytomas. Although the most appropriate treatment of pilocytic astrocytomas is surgical excision, the treatment strategies change with this location of tumors first because these tumors

can show different characteristics in different locations and second, the visual status as well as the potential damage to pituitary and hypothalamic functions needs to be taken in to consideration.[7] The treatment is still controversial and should include an integrated approach. Depending on the classification type of the tumor, a safe biopsy followed by observation or chemotherapy and/or radiotherapy (if the patient is older than 5 years) should be the choice of treatment. Radical excision should not be aimed if there is a high risk of postoperative visual compromise and/or endocrine abnormalities. Contemporary indications for debulking surgery include single nerve involvement causing progressive, disfiguring proptosis, blindness, or both, or exophytic chiasmatic/hypothalamic tumors causing mass effect or hydrocephalus.[8]

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References

1. Vyas S, Rajpal N, Tiwari MK, Radotra BD, Khandelwal N. Hypothalamic glioma masquerading as craniopharyngioma. J Neurosci Rural Pract 2013;4:323-25.
2. Dutton JJ. Gliomas of the anterior visual pathway. Surv Ophthalmol 1994;38:427-52.
3. Tenny RT, Laws ER, Jr, Younge BR, Rush JA. The neurosurgical management of optic glioma. Results in 104 patients. J Neurosurg 1982;57:452-8.
4. McCullough DC, Epstein F. Optic pathway tumors. A review with proposals for clinical staging. Cancer 1985;56:1789-91.
5. Wisoff JH. Management of optic pathway tumors of childhood. Neurosurg Clin N Am 1992;3:791-802.
6. Yasargil M. Microneurosurgery IV B., Stutgart-NewYork: Georg Thieme Verlag; 1996. p. 224-33.
7. Belirgen M, Berrak SG, Ozdag H, Bozkurt SU, Eksioglu-Demiralp E, Ozek MM. Biologic tumor behavior in pilocytic astrocytomas. Childs Nerv Syst 2012;28:375-89.
8. Ahn Y, Cho BK, Kim SK, Chung YN, Lee CS, Kim IH, *et al*. Optic pathway glioma: Outcome and prognostic factors in a surgical series. Childs Nerv Syst 2006;22:1136-42.

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