# Pituitary tumor clinical features

## Headache

Headache is a presenting feature in 37% to 70% of patients with pituitary tumor. Other pituitary lesions may also present with headache, and together these lesions account for about 20% of all primary brain lesions. Although pituitary lesions have been associated with headache, the exact nature of the relationship remains undefined. It is not always clear whether the presenting headache is an unrelated primary headache, a lesion-induced aggravation of a preexisting primary headache, or a separate secondary headache related to the lesion.

One hundred thirty-three participants completed the preoperative questionnaire (response rate of 99%). The overall prevalence of headache was 63%. Compared to patients without headache, the group with headache was more likely to be female (P = .001), younger (P = .001), and to have had a prior headache diagnosis (P < .001). Seventy-two percent of patients reported headache localized to the anterior region of the head. Fifty-one patients with headache underwent transsphenoidal pituitary surgery. Headache was not associated with increased odds of having surgery (odds ratio, 0.90). At 3 months, 81% of surgically treated patients with headache who completed the postoperative questionnaire (21/26) reported improvement or resolution of headaches. No patient who completed the postoperative questionnaire (44/84) reported new or worsened headache.

Frequent, disabling headaches are common in patients with pituitary lesions referred for neuroendocrine consultation, especially in younger females with a preexisting headache disorder. Surgery in this group was associated with headache improvement or resolution in the majority and was not found to cause or worsen headaches. Suggestions for revision of the International Classification of Headache Disorders diagnostic criteria pertaining to pituitary disorders are supported by these findings [1)].

---

The relationship between headaches, pituitary neuroendocrine tumors, and surgical treatment of pituitary neuroendocrine tumors remains unclear.

Nutkiewicz et al. report a patient with a pituitary neuroendocrine tumor who presented with only cerebrospinal fluid rhinorrhea. A radiologically unrecognized defect in the floor of the sella was observed at operation [2)].

Surgery can significantly improve headaches in patients with pituitary neuroendocrine tumors by 6 months postoperatively, particularly in younger patients whose preoperative QOL is impacted. A larger multicenter study is underway to evaluate the long-term effect of surgery on headaches in this patient group [3)].

Pituitary tumors most commonly present due to hormonal effects (includes: hyperprolactinemia, Cushing's syndrome, - acromegaly…), mass effect (most commonly: bitemporal hemianopsia from compression of optic chiasm), as an incidental finding, or infrequently with pituitary apoplexy.

Cavernous sinus syndrome.

Symptoms due to obstructive hydrocephalus.

Incidental

## Visual impairment

see Blurred vision in pituitary neuroendocrine tumor.

Bitemporal hemianopsia.

## Pituitary apoplexy

Pituitary apoplexy.

1)
Rizzoli P, Iuliano S, Weizenbaum E, Laws E. Headache in Patients With Pituitary Lesions: A Longitudinal Cohort Study. Neurosurgery. 2016 Mar;78(3):316-23. doi: 10.1227/NEU.0000000000001067. PubMed PMID: 26485333.
2)
Nutkiewicz A, DeFeo DR, Kohut RI, Fierstein S. Cerebrospinal fluid rhinorrhea as a presentation of pituitary neuroendocrine tumor. Neurosurgery. 1980 Feb;6(2):195-7. PubMed PMID: 7366811.
3)
Wolf A, Goncalves S, Salehi F, Bird J, Cooper P, Van Uum S, Lee DH, Rotenberg BW, Duggal N. Quantitative evaluation of headache severity before and after endoscopic transsphenoidal surgery for pituitary neuroendocrine tumor. J Neurosurg. 2016 Jun;124(6):1627-33. doi: 10.3171/2015.5.JNS1576. Epub 2015 Oct 23. PubMed PMID: 26495954.