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TRANSSPHENOIDAL SURGERY DECREASES HEADACHE IMPACT ON PATIENTS WITH PITUITARY TUMORS: INITIAL RESULTS FROM A PROSPECTIVE COHORT STUDY

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OBJECTIVE

To access the prevalence and clinical features of headaches in patients with pituitary tumors and to evaluate changes after transsphenoidal surgery.

METHODS

We conducted a prospective and observational cohort between January 2024 and January 2025. Inclusion criteria comprised adults (≥18 years) with confirmed pituitary tumor diagnosis scheduled for surgery; exclusion criteria were previous cranial surgery, incomplete data, or refusal of consent. Patients were evaluated preoperatively, at 1 and 6 months postoperatively. Detailed data on tumor type and patient demographics were collected. Headaches were classified according to the latest International Classification of Headache Disorders (ICHD), and the impact assessed using the Headache Impact Test (HIT-6) and the McGill Pain Questionnaire. Data were analyzed using SPSS version 20.0, with results expressed as mean ± SD or percentage, and statistical significance set at $p<0.05$.

RESULTS

There were included 15 patients (13 women, mean of 42.27±7.54 years, between 24-55 years old). Headaches were present in 11 patients (73.3%, mean duration 6±3 years; mean frequency 17±5 days/month). Migraine-like headache was the most prevalent phenotype (81.8%), considering retrospecive diagnosis. All patients with headache exhibited at least one "red flag" for secondary causes, mainly recent onset or change in pattern. The mean interval from tumor diagnosis to surgery was 1.19±0.5 year. The most frequent pain descriptor was pulsating sensation from the sensory component which reached 90,9%.

Between baseline and 1-month post-surgery, a significant reduction in headache impact was observed. The repeated measures ANOVA test indicated a significant difference in HIT-6 between the different times, $F(2, 20)=21.9$, $p<0.001$, with 60.64±8.05 for the impact of headache before surgery, 47.09±9.59 after 1 month and 46.55±9.83 after 6 months (effect size=$n^2p=0.69$). No association was found between tumor type or size and headache presence or severity.

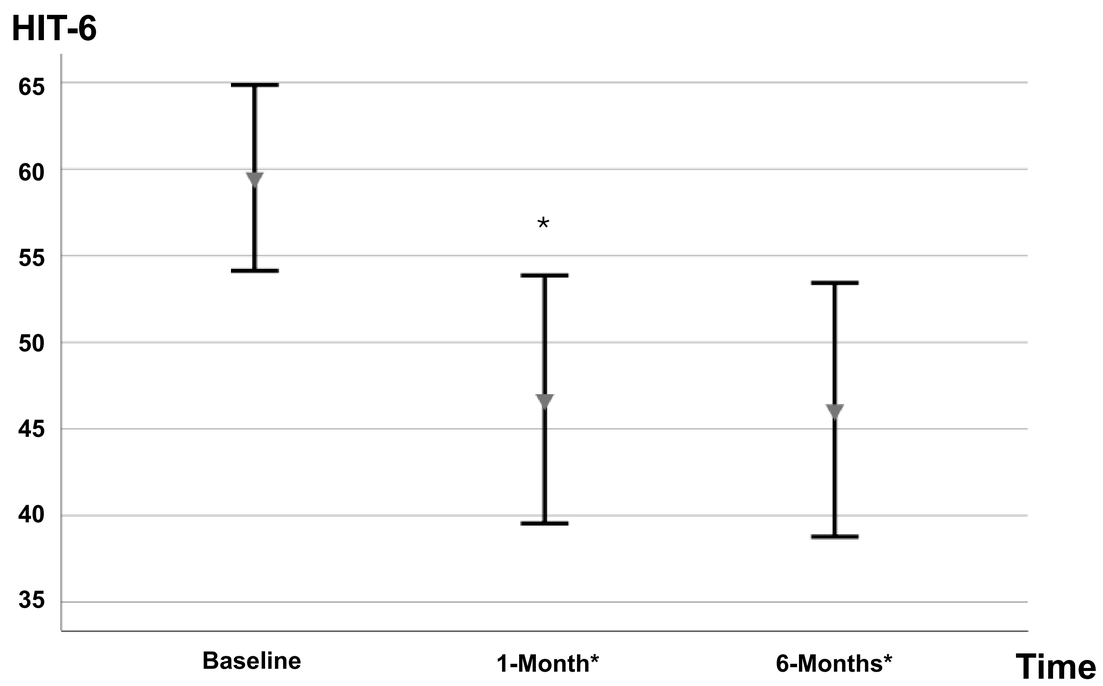

Figure 1: Absolute HIT-6 before surgery, after 1 and 6 months of all patients with headache and pituitary tumors. Repeated measures ANOVA was used. HIT-6: Headache Impact Test; pituitary tumors *p<0,05.

CONCLUSION

Headache, particularly with a migraine-like profile, was highly prevalent among patients with pituitary tumors and imposed a considerable burden on daily life. Transsphenoidal surgery resulted in a significant reduction in impact within the first month, with maintenance after 6 months. These findings reinforce the need for multidisciplinary management of pituitary tumors with early consideration of headache outcomes.

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