

Standard automated perimetry (SAP)

Despite increasingly sophisticated techniques for the computerized analysis of the optic nerve and retinal nerve fiber layer, standard automated [perimetry](#) (SAP) is still the primary test for assessing functional damage in glaucoma. Most of the diseases affecting the visual field can be studied analyzing the central visual field with a fixed grid of points set at 6 degrees or at a variable density within central 30 degrees, using a III white target stimulus (program 30/2 or 24/2 Humphrey, G1/G2 or 30/2 Octopus).

Good agreement was demonstrated between SAP and mfVEP and quantitative analysis of structure-function measurements revealed a moderate correlation ¹⁾.

Thirty patients with [pituitary neuroendocrine tumor](#) were recruited from Huashan Hospital between September 2010 and January 2014. The examination included pupil examination, anterior and posterior segment examination, [standard automated perimetry](#) (SAP), [retinal nerve fiber layer](#) (RNFL) and multifocal [VEP](#) (mfVEP). At three months and nine months after transsphenoid surgery, follow-up measurements were conducted in twenty-three patients, and at 18 months after surgery, the same examinations were performed in seven patients.

The average age of patients was 42.6 ± 12.1 years, with 23 males and 7 females. The mean score of SAP improved significantly: 1.75 before surgery; 0.62 at three months after surgery ($p=0.00$) and 0.50 at nine months after surgery ($p=0.00$). No significant improvement in RNFL thickness was observed at three months or nine months after surgery. The mean score of mfVEP also improved significantly: 0.85 before surgery; 0.53 at three months ($p=0.00$) and 0.38 at nine months after surgery ($P=0.00$). No statistical difference was observed in the outcome of patients at nine months of follow-up and 18 months of follow-up.

Visual field and mfVEP recovery with unchanged RNFL thickness was observed in patients after transsphenoid pituitary neuroendocrine tumor resection ²⁾.

¹⁾

Qiao N, Zhang Y, Ye Z, Shen M, Shou X, Wang Y, Li S, Wang M, Zhao Y. Comparison of multifocal visual evoked potential, static automated perimetry, and optical coherence tomography findings for assessing visual pathways in patients with pituitary neuroendocrine tumors. *Pituitary*. 2015 Oct;18(5):598-603. doi: 10.1007/s11102-014-0613-6. PubMed PMID: 25349031.

²⁾

Qiao N, Ye Z, Shou X, Wang Y, Li S, Wang M, Zhao Y. Discrepancy between structural and functional visual recovery in patients after trans-sphenoidal pituitary neuroendocrine tumor resection. *Clin Neurol Neurosurg*. 2016 Sep 6;151:9-17. doi: 10.1016/j.clineuro.2016.09.005. PubMed PMID: 27728836.

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