

Anatomical predictors of early poor outcome in surgical treatment for trigeminal neuralgia

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Aims and objectives

To estimate anatomical factors, which can influence for early return of pain in patients with trigeminal neuralgia, who underwent microvascular decompression.

Methods and materials

28 patients with trigeminal neuralgia mean age 56, 22 males 6 females underwent surgery (microvascular decompression of trigeminal nerve). Pre-operative MR was performed on 1.5 T MR unit Siemens Magnetom Avanto, imaging of posterior fossa was performed with axial T2-weighted three-dimensional constructive steady-state (3D-CISS). Three images were used for estimation of cross-sectional area of cistern of cerebello-pontine angle, symmetry of CPA cisterns, estimation of angle between trigeminal nerve and pons, length of trigeminal nerve, angle between trigeminal nerves.

Results

In patients with smaller cistern pain returned 1-3 days after operation, also these patients had lower meanings of trigeminal-pontine angle and angle between trigeminal nerves, in most cases CPA were asymmetrical and had lower size on the affected side. Length of the trigeminal nerve also was shorter on the affected side, and patients with short nerve had the same pain level as before operation, just after recovering from anesthesia.

Images for this section:



Fig. 1: Patient having neurovascular conflict with narrow cistern and short trigeminal nerve in the right side



Fig. 2: Same patient. Note the compression of trigeminal nerve with vessel



Fig. 3: Patient with normal size of cistern without neurovascular disturbance. Note normal side of left side of cistern

Conclusion

Small area of CPA with its asymmetry, low angle between trigeminal nerve and pons, short length of trigeminal nerve may be considered as predictors of early return of pain in patients with trigeminal neuralgia after operation.

Personal information

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