

# Enhancing cosmetic outcomes after surgical treatment of meningioma-associated proptosis

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Winner of the Synthes Skull Base Award, William T. Couldwell, MD, PhD, FAANS, presented findings from the study, Outcomes after Surgical Treatment of Meningioma-associated Proptosis, during the 83rd Annual Scientific Meeting of the American Association of Neurological Surgeons (AANS).

Proptosis (protrusion of the eyeball), associated with sphenoorbital and other [skull base](#) meningiomas, can be cosmetically and functionally problematic; however, the literature is limited regarding quantitative proptosis outcomes, with no consensus regarding the optimal surgical technique. This study evaluated proptosis outcomes in order to determine whether an aggressive surgical removal of the periorbital (the tissue around the orbit of the eye) in addition to bone involvement yielded better improvement, and whether this was associated with additional morbidity. No attempt was made to reconstruct the orbit.

The authors reviewed a retrospective cohort of surgeries for meningioma-associated proptosis by a single surgeon. The extent of proptosis resolution was measured by the exophthalmos index (EI) pre- and post-operatively and at final follow-up.

Thirty-two patients (19 female; mean age 49 years) were treated for meningioma-associated proptosis. Twenty had additional visual symptoms, such as a loss of visual acuity, a field cut or diplopia (double

vision). None of the patients had worse vision after treatment. Fifteen had improved vision and five had stable vision on follow up (average 33.0 months). Diplopia was present post-operatively but resolved in all cases. No cases of enophthalmos (posterior displacement of the eyeball) were noted. The average pre-operative EI was 1.33, and the average EI at most recent follow-up was 1.01, yielding an average EI improvement of 0.32.

One case of delayed vasospasm was noted. One patient experienced a recurrence of hyperostosis within the treatment zone, which was managed by repeat surgery and post-operative radiation therapy.

Experience from this series indicates that aggressive tumor removal involving the periorbita in cases of meningioma-associated proptosis achieves enhanced cosmetic outcome.

Provided by American Association of Neurological Surgeons

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