**Topic:** THYROID-ASSOCIATED OPHTHALMOPATHY

**Title:** Surgical or medical decompression as a first-line treatment of neuropathy in Graves’ ophthalmopathy? A randomised controlled trial.

**Authors:** Wakelkamp IM, Baldeschit L, Saeed P, et al. (Amsterdam, the Netherlands)

**Reference:** Clinical Endocrinology 63: 323-328, 2005

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**SUMMARY**

**Objective:** Only a small percentage of Graves’ ophthalmopathy (GO) patients develop optic neuropathy with impending loss of visual acuity. Therapy with methylprednisolone pulses is the treatment of first choice in severe and active GO patients. When the effect is insufficient, patients are usually treated with surgical decompression. The authors investigated whether surgery could become the first-line treatment, thus preventing treatment with steroids.

**Design & Subjects:** A randomised trial was performed in 15 patients with very active GO and optic neuropathy. Six patients were treated with surgical decompression, and nine with methylprednisolone i.v. pulses for 2 weeks, followed by oral prednisolone for 4 months. The primary outcome was determined by changes in visual acuity. If the eye disease deteriorated despite treatment or did not improve sufficiently, patients were switched to the other treatment arm.

**Results:** The severity and activity of GO in both groups were similar at baseline. The Clinical Activity Score (CAS) was $6.3 \pm 0.8$ in the surgical group vs $6.0 \pm 0.5$ in the steroids group and the Total Eye Score was $24 \pm 6$ vs $25 \pm 6$. In the surgery group, $5/6$ patients (82%) did not respond because of insufficient improvement in vision or persistent chemosis, and all needed further immunosuppression. In the steroids group, $4/9$ patients did not improve in visual acuity, and these needed decompressive surgery. All patients in whom therapy failed were switched to the other treatment and visual acuity improved in almost all patients. Visual acuity improved from 0.36 to 0.90 in the surgery group and from 0.50 to 0.75 in the steroids group at 52 weeks. At long-term follow-up in the surgery group, 3/6 patients required squint surgery and 5/9 patients in the steroids group. Eyelid surgery was performed in 5/6 patients in the surgery group and in 4/9 patients in the steroids group.

**Conclusions:** Immediate surgery does not result in a better outcome and therefore methylprednisolone pulse therapy appears to be the first choice therapy.

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**COMMENT**

The group of Wilmar Wiersinga in Amsterdam has developed, over the past fifteen years, a large experience in the management of patients with Graves’ ophthalmopathy (GO). These investigators had the wisdom (and courage) to perform several randomised clinical trials in order to assess the validity of the various therapeutic options available for the management of patients with GO: steroid administration, retro-orbital radiotherapy, decompression by surgical approaches. Another major asset of the Amsterdam group is to have organized the approach to the management of such patients by combining systematically the evaluations done by endocrinologists and ophthalmologists, in particular experienced eye surgeons. In present work, the authors investigated the optimal first-line treatment for patients with severe GO, namely with optic neuropathy. The results of their study indicated that immediate surgery did not result in a better outcome and, therefore,
they propose i.v. pulse therapy with methylprednisolone as the first choice. Another important result of present work was to show that when the first-choice treatment (surgery or steroids) did not help improve the patient’s eye condition sufficiently, shifting them from one approach to the other allowed for further improvement.

*(Daniel Glinoer, MD; PhD)*

**See Figures below**

**Fig. 2** Visual acuity in GO patients with optic neuropathy in the (a) medical group and (b) surgical group before initiating treatment and at 26 weeks or premature stop. The open triangles connected by continuous lines represent patients who responded to therapy and the solid circles connected by broken lines are nonresponders.

**Fig. 3** Number of required treatments in the first year of 15 GO patients with optic neuropathy initially randomized to receive methylprednisolone or decompressive surgery.