

## **Is intravenous steroid pulse therapy sufficient for the restoration of normal visual function in patients with Dysthyroid Optic Neuropathy?**

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**Aim:** Intravenous (i.v.) steroid pulse therapy seems to be effective in patients with Graves' Orbitopathy (GO), but up to date there is limited data on treatment of patients suffering from the severe sight-threatening form with Dysthyroid Optic Neuropathy (DON).

**Patients & Methods:** Medical charts of 25 GO patients with DON (46 eyes) seen in our clinic between 2008 and 2015 were reviewed retrospectively. The patients' age was between 38 and 85 years, 80% were female and 20% male. All patients were treated with i.v. steroid pulse therapy for six weeks (Soludecortin 500mg 2 times weekly, for 4 weeks; 250mg 2 times weekly, for 2 weeks) and Selenase (300µg daily). Outcome measures were visual acuity, visual field, color vision, swinging-flashlight-test (SWFLT) and clinical activity score (CAS).

**Results:** 17 of 46 eyes (37%) were treated with i.v. steroid pulse therapy only, while 29 eyes (63%) finally needed surgical orbital decompression (3-wall) 119±95 days (median 91 days) after i.v. steroid pulse therapy due to an insufficient improvement of visual acuity, visual field or color vision. During the follow-ups, visual acuity and visual field improved significantly in all but one eye. 89% of the color vision tests changed from pathological to normal. Out of nine positive SWFLT only one eye remained positive at the end of the treatment and thus required further extended medial-wall decompression. CAS improved from mean 5,7 (active) to 2,7 (inactive GO).

**Conclusion:** I.v. steroid pulse therapy is effective in improving the visual outcome of patients suffering from GO with DON. However, in two thirds of our patients an orbital decompression was necessary to restore visual function.