

International Optic Nerve Trauma Study (IONT) – 1999



Objective

To determine optimal treatment of traumatic optic neuropathy by comparing visual outcomes for those treated with corticosteroids, optic canal decompression surgery, or observed without treatment

Methods

Design: Comparative nonrandomized interventional study with concurrent treatment groups

Sample Size: 127

Treatment Groups:

- 85 to steroid
- 33 to surgery
- 9 to no treatment

Outcome Measures:

- Visual acuity

Results

Point 1: No clear benefit found for either corticosteroid therapy or optic canal decompression surgery

- Visual acuity increased by ≥ 3 lines on Snellen chart in 32% of the surgery group, 57% of the untreated group, and 52% of the steroid group ($P = 0.22$).
- After adjustment for baseline visual acuity, there were no significant differences in visual acuity between the surgery group and the untreated and steroid groups ($P = 0.86$ and 0.25 , respectively)

Point 2: Dosage or timing of corticosteroid therapy did not affect outcome

- A mix of patients with low dose (<100 mg), medium dose (100-499 mg), high dose (500-1999 mg), and megadose (>2 g) were used (daily methylprednisolone equivalent dose)
- No evidence of greater visual recovery in those who began steroid therapy within a few hours or injury

Point 3: Baseline visual acuity was the most important prognostic factor

- In fact, more patients who did not improve three lines after treatment had an initial visual acuity of NLP than those who did (55% versus 24%, $P = 0.002$)

TLDR: There is no clear benefit to treatment for traumatic optic neuropathy and therefore observation should be considered standard of care.