

Meeting abstract

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Effects of high dose prednisolone on optic nerve head blood flow in patients with acute optic neuritis

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Purpose

In the present study patients with optic neuritis were treated with high dose prednisolone. Little information is available about the effects of this treatment on ocular blood flow. We set out to investigate the effects of high dose prednisolone on optic nerve head blood flow in patients with acute optic neuritis.

Methods

Nine patients with acute optic neuritis were included in the study. One gram of prednisolone was infused intravenously over 30 minutes on three consecutive days. On each study day optic nerve head blood flow was measured using laser Doppler flowmetry. The ocular hemodynamic measurements were performed on the contralateral eye of the patients with optic neuritis before and immediately after cessation of the infusion. Intraocular pressure and systemic blood pressure was measured before and after the infusion on each study day. Data was analyzed using a 3-2 repeated measures ANOVA model.

Results

Prednisolone increased optic nerve head blood flow in the patients under study ($p < 0.05$). No significant change in mean arterial pressure ($p = 0.14$) or intraocular pressure ($p = 0.91$) could be detected in the patients treated with high dose prednisolone.

Conclusion

High dose prednisolone showed a small but significant increase in optic nerve head blood flow. Further studies are required to study whether this effect contributes to the therapeutic efficacy of cortisone in patients with optic neuritis.