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1. An achiasmatic girl with a horizontal nystagmus

N.M. Jansonius¹, A.M. van der Vliet², F.W. Cornelissen¹ & A.C. Kooijman¹ Departments of Ophthalmology¹ and Radiology², University of Groningen, P.O. Box 30.001, 9700 RB Groningen, the Netherlands

Purpose. To present a very rare case of a girl without optic chiasm. Our patient was diagnosed to have a congenital nystagmus 4 months after birth. No other ocular or neurological signs were found. The first measurement of visual acuity, at an age of 3 years, yielded values of 0.2 (OD) and 0.1 (OS). Acuity remained apparently stable in the first decade. At the age of 15 years she returned to our department. Acuity measurement at that time revealed 0.1 (OD) and <0.05 (OS). Material and methods. Perimetry (Goldman), ERG, VEP (electrode position 3 cm above and lateral with respect to the inion, reference electrode at the ipsilateral ear, corrimon at the forehead), extensive blood investigations, eye movement recordings (EyeLink gaze tracker; resolution 250 Hz, 0.1°), and MRI (inversion recovery, IRM with slice thickness 3 mm and gap 0.3 mm, T1 SE, and T2 SE) were performed. Results. Perimetry revealed concentric restricted visual fields, symmetrical around and without any discontinuity along the vertical meridian. ERG responses were strictly normal. Eye movement recordings showed a horizontal pendular nystagmus, without any ocular motor instability in the vertical plane. Pattern VEP did not provide very useful recordings. Flash VEP yielded some positive response after about 150–200 ms, only visible in the ipsilateral hemisphere. VEP asymmetry calculations as performed in albino’s by Ver Hoeve et al. (unpublished) showed a strong negative correlation, which is consistent with either ≥50% crossing of fibers in the chiasm (as in albino’s) or with ≤50% crossing. MRI revealed a complete absence of the chiasm; the optic nerves appeared to be headed directly towards the geniculate bodies. Conclusions. We documented a girl with a horizontal congenital nystagmus, who appears to have the unique inborn absence of the optic chiasm as described previously [1] in two unrelated girls. Unlike the previously
described patients, our patient does not show a see-saw nystagmus, head tremor or torticollis.

References


2. Brimonidine 0.2%
C.A.B. Webers, Academisch Ziekenhuis, Maastricht, Postbus 5800, 6202 AZ, Maastricht

Purpose. The purpose of this study was twofold. In the first place there was attention for the maximal and minimal intraocular pressure (IOP) lowering effects of brimonidine during the day. Furthermore attention was paid to side effects. Material and methods. A total number of 142 patients with (suspected) open angle glaucoma or normal pressure glaucoma could be included. IOP was measured at 8h, 10h, 14h and 20h at intake, after 1 month and 3 months of brimonidine treatment. At 8h IOP was measured and directly thereafter brimonidine was applied. At 20h a second drop of brimonidine was applied. Side effects were registered both subjectively and objectively. Criteria for applying statistics were: complete IOP day curve, complete protocol at 3 months and randomisation (64 patients (64 eyes); 29 newly and 35 additional treated eyes).

Results. The mean initial IOP was 22.8 ± 5.2 mmHg. After 1 month mean IOP was 18.8 ± 3.6 mmHg (mean TOP decrease 17.6%) and after 3 months 18.5 ± 3.3 mmHg (mean IOP decrease 18.7%). The IOP course throughout the day revealed an IOP decrease of 14.5% (8h), 22.2% (10h), 19.6% (14h) and 18.8% (18h). In newly treated eyes mean initial IOP was 24.2 ± 5.5 mmHg, mean IOP at 1 month was 19.9 ± 3.8 mmHg and mean IOP at 3 months was 19.5 ± 3.3 mmHg. The IOP course showed an IOP decrease of 16.8% (8h), 23.1% (10h), 20.8% (14h) and 19.4% (18h). For additionally treated eyes mean initial IOP was 21.5 ± 4.5 mmHg, 17.9 ± 3.1 mmHg at 1 month and 17.7 ± 3.1 mmHg at 3 months. The IOP course showed an IOP decrease of 12.2% (8h) 21.2% (10h), 18.4% (14h) and 18.2% (18h). For both newly and additionally treated eyes the differences in IOP decrease at 8h and 10h were statistically significant (p = 0.021 and p = 0.002 respectively). The most frequent side effects were dry mouth (14.3%), burning (12.6%), fatigue (8.7%), foreign body sensation (7.1%) and ocular allergic reaction (7.0%). Nineteen patients (13.4%) of the original group had to stop the use of brimonidine because of side effects. Conclusion. The IOP lowering effects of brimonidine 0.2% are satisfactory, both in newly and additionally treated eyes. There is however a significant difference between the IOP decrease at trough (8h) and at peak (10h). Side effects are frequent and a substantial proportion of patients have to cease the use of brimonidine because of side effects.

3. Vitreomacular surgery, a new subspecialism
A.F. Deutman, Nijmegen

Vitreomacular surgery has developed within the last ten years into a real subspecialism in ophthalmology. The following conditions can be treated surgically:

1. premacular haemorrhage
2. vitreomacular traction syndrome
3. epimacular fibrosis
4. macular hole
5. cystoid macular oedema
6. submacular choroidal neovascularisation

Ad 1. A premacular haemorrhage, occurring sometimes after a Valsalva manoeuvre or in diabetic retinopathy can be treated by means of the Nd YAG laser or by vitrectomy. Usually Nd YAG laser treatment solves the problem. Ad 2. In vitreomacular traction syndrome a vitrectomy will always relieve the traction on the macula which usually results in visual improvement. Ad 3. In epimacular fibrosis (cellophane, pucker) vitrectomy with peeling of the epimacular membrane will lead to visual improvement in over 80 per cent of cases. Ad 4. Macular hole surgery, consisting of removing the premacular cortical vitreous and sometimes the internal limiting membrane (ILM) will result in closing of the hole in over 90 per cent of cases. Usually visual acuity increases considerably. Ad 5. Cystoid macular oedema, caused by uveitis or complications in cataract surgery can be successfully treated with vitrectomy and peeling of epimacular gliosis and the ILM. In about 50 per cent of cases visual acuity will improve after surgery. Ad 6. Submacular choroidal neovascularisation can be treated successfully with vitrectomy and removal of the subretinal membrane in a high percentage of patients under 50 years of age. In age-related macular degeneration (ARMD) the results are still disappointing. It appears now that macular translocation will give better results in patients with ARMD if operated on in time.