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Treatment of childhood glaucoma in children with Sturge-Weber syndrome using a glaucoma drainage device – A case series from the Eye Clinic Ljubljana

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Purpose: The purpose of this case series is to present the usefulness of glaucoma drainage devices (GDD) implantation in the treatment of glaucoma associated with Sturge-Weber syndrome.
Methods: We present four consecutive cases of children (girls aged from 2.5 to 16 years) with glaucoma associated with SWS who were treated with the implantation of a glaucoma drainage device (Baerveldt, BGV, or Ahmed, AGV) in the period 2013–2025. On average, the children underwent surgery at the age of 9.5 years, with a mean follow-up duration of 48 months.
Results: Case 1: A 16-year-old girl had a BGV implanted in her left eye at the age of 12, with a follow-up time of 45 months. Revision of the BGV tube was required 6 months after implantation due to contact with the corneal endothelium. The visual acuity in the left eye was 0.2–0.3, and the excavation of the optic nerve papilla remained stable (C/D = 0.5–0.6). The girl has been without topical therapy for the past 4 years, with a well-regulated IOP.Case 2: A 15-year-old girl had an AGV implanted in her left eye at the age of 9, with a follow-up time of 72 months. A revision of the valve was performed 5 years after the initial surgery. The IOP is well-controlled with the addition of local and systemic antiglaucoma therapy. The excavation of the optic nerve papilla remains stable (C/D = 0.5), and the visual acuity is 1.2 s.c. Case 3: A 2.5-year-old girl had an AGV implanted in her left eye at the age of 2 months, with a follow-up time of 28 months. A revision of the valve was performed 2 years after the implantation. Since the procedure, the IOP has remained within the normal range with the addition of topical antiglaucoma therapy. Case 4: A 13-year-old girl had a BGV implanted in her right eye at the age of 1.5 years, with a follow-up time of 12 years. Ten years after the BGV implantation, she underwent surgery for complicated cataract, followed 9 months later by IOL repositioning and synechiolysis in the right eye. Since the procedure, the IOP has remained well-controlled with the addition of topical antiglaucoma therapy, and the glaucomatous defect has not progressed.
Conclusion: The treatment of glaucoma in children with SWS using GDD implantation is an effective method supported by the literature. In two patients, GDD implantation alone was sufficient to control IOP, while in two cases, additional antiglaucoma therapy was required for IOP regulation. The glaucomatous defect remained stable in all cases.

Zdravljenje glavkoma z implantacijo glavkomske valvule pri otrocih s Sturge Weber sindromom- Predstavitev primerov otrok zdravljenih na Očesni kliniki Ljubljana

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Namen: Namen je predstaviti zdravljenje glavkoma pri otrocih s Sturge-Weber sindromom z implantacijo glavkomske valvule.
Matode: Predstavljeni bodo štirje zaporedni primeri otrok (deklice stare od 2,5 let do 16 let) s SWS in glavkomom, ki so bili v obdobju 2013-2025 zdravljeni z implantacijo glavkomske valvule (Bearveldt, BGV ali Ahmed, AGV). Povprečno so bili otroci operirani v starosti 9,5 let, povprečen čas sledenja je bil 48 mesecev.
Rezultati: Primer1: 16-letna deklica je imela implanirano BGV v levo oko v starosti 12 let, čas sledenja je bil 45 mesecev. 6 mesecev po implantaciji je bila potrebna revizija cevke BGV zaradi naleganja na endotel roženice. Vidna ostrina na levem očesu je bila 0,2-0,3, ekskavacija papile vidnega živca je stabilna (C/D= 0.5-0,6). Deklica je zadnje 4 leta brez lokalne terapije, z urejenim IOP. Primer2: 15-letna deklica je imela implantirano AGV v levo oko v starosti 9 let, čas sledenja je bil 72 mesecev. Pri deklici je bila opravljena revizija valvule 5 let po primarnem posegu. IOP je urejen ob dodatku lokalne in sistemske antiglavkomske terapije, ekskavacija papile vidnega živca je stabilna (C/D=0,5), vidna ostrina je stabilna (1.2 s.c.). Primer3: 2,5 letna deklica je imela implantirano AGV v levo oko v starosti 2 mesecev, čas sledenja je bil 28 mesecev. 2 leti po implantaciji valvule smo opravili revizijo valvule. Od posega dalje je ob dodatni topični antiglavkomski terapiji IOP v mejah normale. Primer4: 13-letna deklica je imela implantirano BGV v desno oko v starosti 1,5 let, čas sledenja je 12 let. 10 let po implantaciji BGV je imela opravljeno operacijo komplicirane sive mrene, 9 mesecev pozneje pa repozicijo IOL in sinehiolizo desno. IOP je od posega dalje urejen ob dodatku topične antiglavkomske terapije, glavkomska okvara ne

napreduje.
Zaključek: Zdravljenje glavkoma pri otrocih s SWS z implantacijo glavkomskih valvul je učinkovita metoda, podprta z literaturo. Pri dveh bolnikih je bil za nadzor IOP zadostna implantacija glavkomske valvule, pri dveh bolnikih pa je bila za nadzor IOP potrebna dodatna antiglavkomska terapija.