

UK Paediatric Glaucoma Society (UKPGS) Annual Meeting Saturday 23rd January 2021, 10:30 – 16:35 GMT

Approved CPD 6 points (Royal College of Ophthalmologists)

Abstracts

30 - Long-term follow-up of glaucoma drainage implants (tubes) in paediatric glaucoma patients

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Aim: To evaluate the long-term outcomes and safety profile of tube implants in primary and secondary paediatric glaucoma patients (≤ 16 years of age) at a tertiary centre.

Methods: Between January 2005 and August 2020, 361 paediatric glaucoma patients had a tube implant. Of these, 121 were analysed and 83 eyes were included as a first tube implant and sufficient follow-up of at least 12 ± 2 months. This was a retrospective data collection. Failure was defined as loss of light perception (PL), tube explantation, need for oral acetazolamide or further glaucoma surgery. Eyes that did not fail by the above criteria but were on supplemental topical medical therapy were considered qualified successes. Eyes that did not fail and were not on any medical therapy were considered complete successes.

Results: The mean age at surgery was 8.1 ± 5.3 years (55.4% female). The average intraocular pressure (IOP) at listing was 28.1 ± 7.2 mmHg, on 3.1 ± 0.9 medications with 27 (32.5%) patients taking oral acetazolamide. The mean follow-up time was 3.4 ± 2.0 years. One year after tube implant [7 Ahmed valves (8.4%), 1 Molteno tube (1.2%), 75 Baerveldt tubes (90.4%) $n=79$], the IOP decreased to 14.8 ± 4.2 mmHg on 2.6 ± 1.0 medications. The average IOP was 16.0 ± 4.7 mmHg on 2.6 ± 0.9 medications after 3 years ($n=53$) and 15.8 ± 5.7 mmHg on 2.9 ± 0.8 agents after 5 years ($n=33$). The average visual acuity was 0.6 ± 0.51 logMAR at listing. It developed to 0.7 ± 0.6 logMAR after one year, 0.8 ± 0.7 logMAR after three years and 0.9 ± 0.7 logMAR after five years. Altogether, one patient (1.2%) lost PL four years post-op, one tube was explanted and replaced with another tube due to poor IOP control (1.2%) and a further eight (1.0%) patients needed additional glaucoma surgeries, despite medication. All in all, seven patients (8.4%) needed oral acetazolamide.

Conclusions: Despite the inherent risk in the paediatric population, tube implants appear to be an effective procedure driving drastic reduction in pressure ($p < .00001$ at all times) as well as in use of medication in long-term ($p < .00001$ at all times).

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