

Glaucoma Gel Implant Learning Curve in a Teaching Tertiary Hospital

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PURPOSE: The XEN gel stent is a minimally invasive surgical device aimed at creating a subconjunctival drainage of aqueous humor, thereby reducing intraocular pressure (IOP) . Being a novel device, doubts remain with regard to the efficacy and safety of its implantation in the early stage of new users. This paper illustrates the XEN implantation learning curve, assessed through several surgeons of different expertise.

METHODS: This was a retrospective study on the first 6 XEN implants performed by each of the 10 certified ophthalmic surgeons. Simultaneous cataract surgery was allowed (phaco-XEN) . Primary outcomes were as follows: surgical time; intraoperative and postoperative surgical complications. Secondary outcomes were as follows: IOP; the number of topical drugs in use; the need for needling procedures. Outcome data were collected preoperatively and at postoperative days 1, 7, 15, 30, 60, and 90. Statistical analysis was performed with STATA 14.1 and SPSS.

RESULTS: Sixty patients were included (56.7% female patients) . Mean age was 73 years (45 to 89) . Mean preoperative IOP was 23.8 ± 8.95 mm Hg. From the included patients, 29 (48.3%) were submitted to simple XEN implant and 31 (51.7%) to phaco-XEN. In both groups, mean surgical time decreased by 9 minutes throughout the 6-implant learning curve. Final IOP was 15 ± 7.27 mm Hg in the stent group (-43% than baseline) , and 14.92 ± 3.32 mm Hg in the phaco-XEN group (-16% than baseline) . On average, patients decreased 2 topical IOP-lowering drugs. Needling procedures were performed in 17 patients (28.3%) .

CONCLUSIONS: XEN gel stent was associated with a fast learning curve, by both experienced surgeons and novice residents. By the sixth implant, both groups had considerably decreased mean surgical time and complication rates.

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