Short-term outcomes and prognostic factors of iStent in the Republic of Korea

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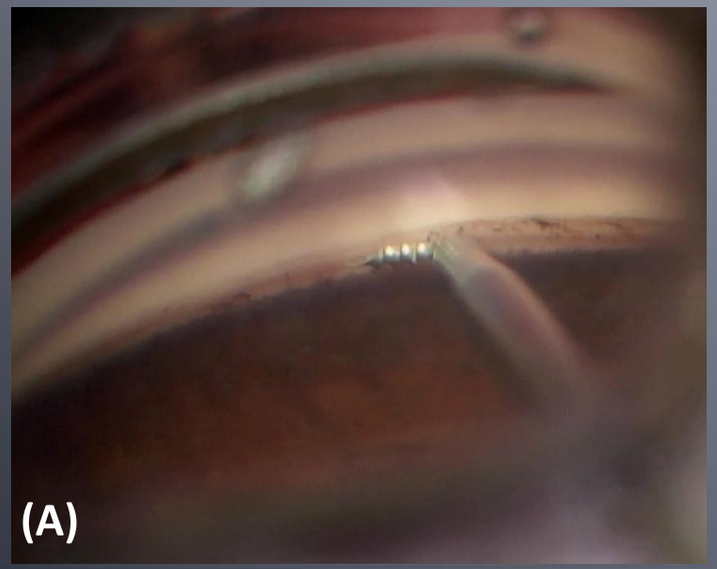
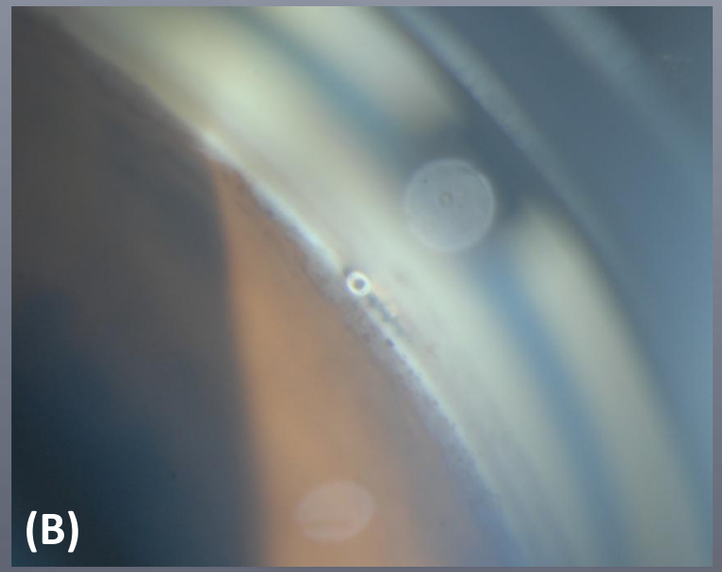
Purpose: To evaluate the intraocular pressure (IOP) reduction, success rate and prognostic factors after trabecular micro-bypass stent implantation in patients with open-angle glaucoma.

Methods: We retrospectively reviewed 33 eyes of 33 patients with open-angle glaucoma who were followed-up for more than 6 months after trabecular micro-bypass stent implantation. The success of surgery was defined as an IOP ≤ 21 mmHg and an IOP reduction ≥ 20% from baseline, regardless of whether glaucoma medication was used.



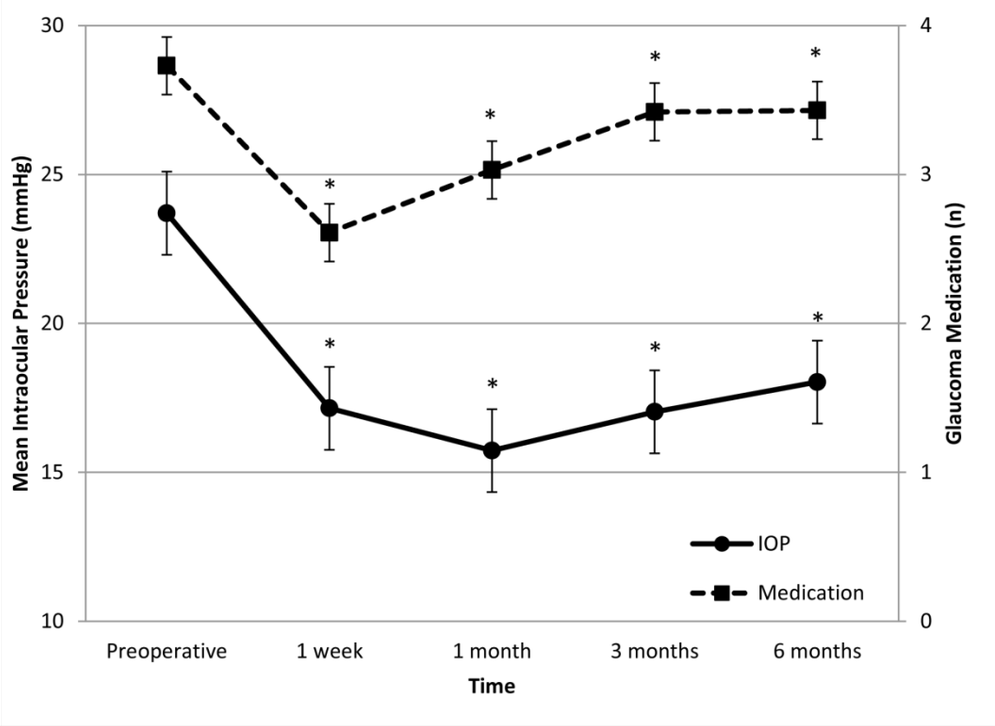


Trabecular micro-bypass stent(iStent). (A) Implantation of iStent under gonioscopic visualization. (B) iStent impanted through the trabecular meshwork into Schlemm's canal.

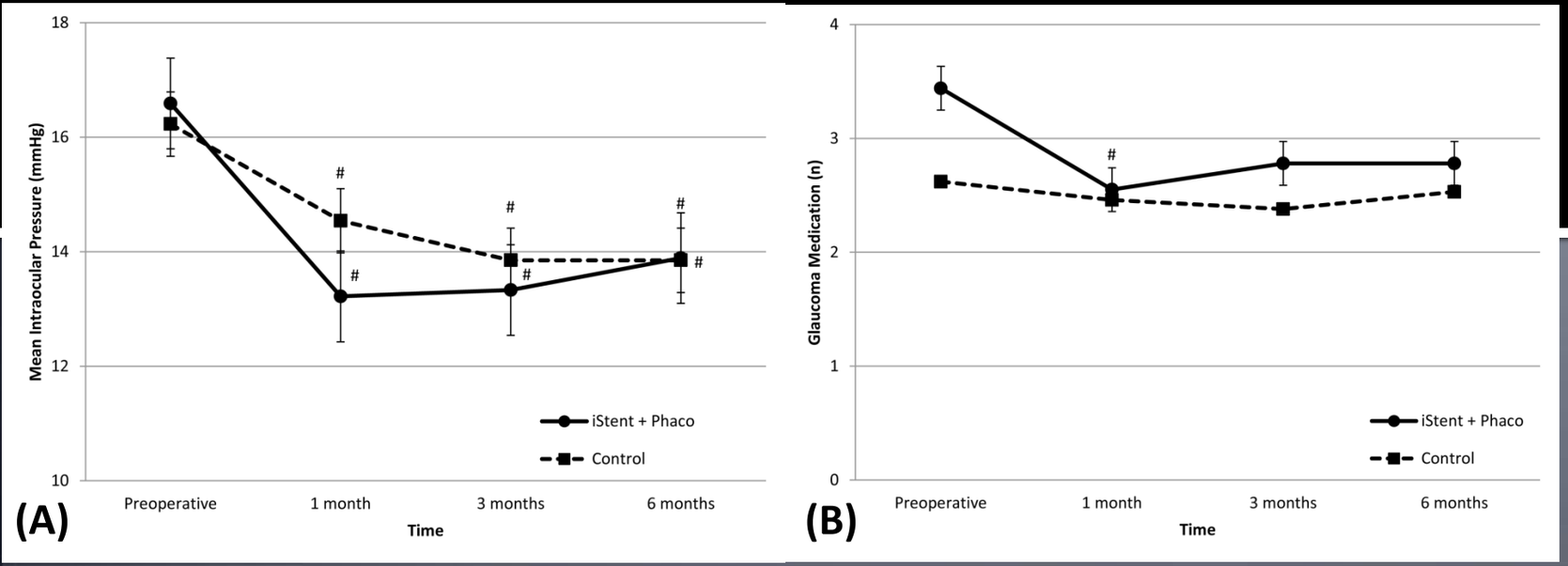
Results

Table 1. Demographics of the study groups

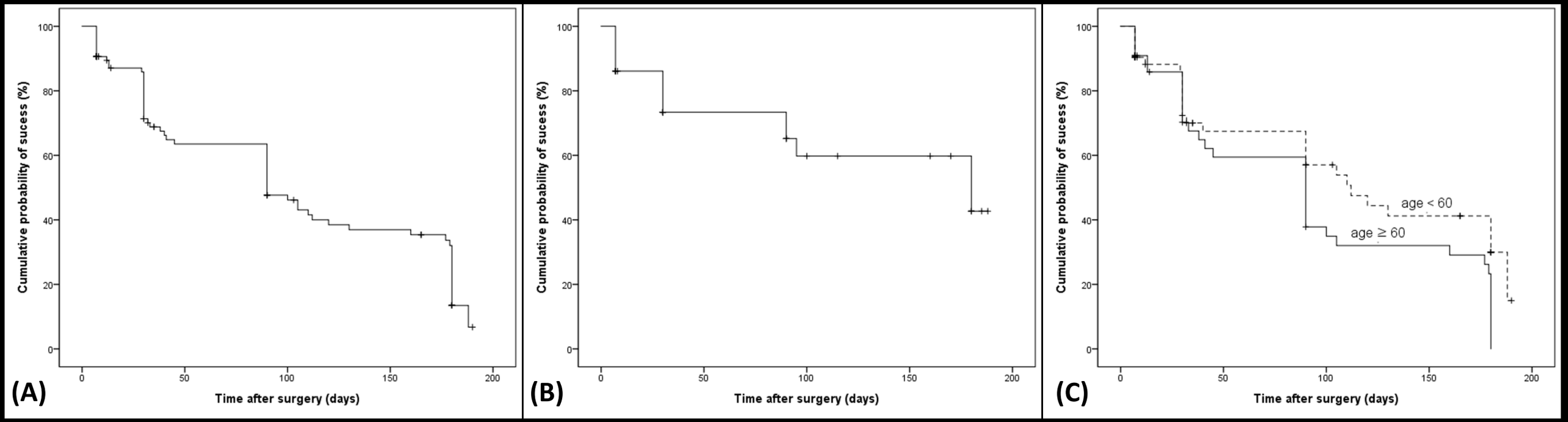
Characteristics	iStent Group			Control	*p*-value*
	Total iStent	iStent Only	iStent + Phaco	Phaco Only	
Eyes/patients (No.)	33/33	24/24	9/9	13/13	-
Sex (male:female)	28:5	21:3	7:2	7:6	-
Age (years)	62.42 ± 16.57	59.56 ± 18.69	69.00 ± 5.29	66.08 ± 5.56	0.270
Preoperative IOP (m mHg)	23.70 ± 6.26	26.25 ± 5.24	16.59 ± 2.42	16.23 ± 2.31	<0.001
Glaucoma medicatio n (n)	3.73 ± 0.67	3.83 ± 0.48	3.44 ± 1.01	2.62 ± 0.87	0.089
Visual field / Glauco ma severity					
MD (dB)	-16.89 ± 10.68	-15.02 ± 11.23	-21.91 ± 7.40	-13.81 ± 8.76	0.081
PSD (dB)	7.30 ± 3.75	6.89 ± 3.91	8.39 ± 3.24	5.48 ± 3.64	0.143
CCT (µm)	540.27 ± 33.73	533.67 ± 36.62	557.89 ± 14.65	534.77 ± 44.43	0.464
AXL (mm)	25.06 ± 1.54	25.75 ± 1.66	25.06 ± 1.54	23.36 ± 1.76	0.946



The change of intraocular pressure and glaucoma medication during 6 month follow-up in Total iStent Group. The postoperative IOP decreased significantly compared to the preoperative level during follow-up.



(A) The postoperative IOP decreased significantly compared to the preoperative during f/u period. (B) The postoperative glaucoma medication decreased significantly compared to the preoperative level only after 1month in iStent + phacoemulsification group.



Kaplan-Meier curves for successful intraocular pressure using the definition of success.(A) Success rate at 6 months was 33.7% in iStent Only Group. (B) Success rate at 6 months was 42.7% in iStent with phacoemulsification Group.(C) Cumulative success rate in the iStent Only Group under age 60 shows significantly higher than that in group more than age 60 (p=0.023 by the Mantel-Cox log-rank test).

Conclusion: In patients in the Republic of Korea, trabecular micro-bypass stent implantation was an effective surgery for IOP reduction, and showed a better surgical success rate in younger patients.