ABSTRACTS

Abstracts of Published Articles in *Nippon Ganka Gakkai Zasshi* (Journal of the Japanese Ophthalmological Society)

Effects of Ocular Hypotensive Agents on Circadian Rhythms of Intraocular Pressure in Rabbits as Measured by Telemetry System

Purpose: To establish a telemetry system for measuring intraocular pressure (IOP) in rabbits and to evaluate the effects of topical application of ocular hypotensive agents on the circadian rhythm of IOP.

Subjects and Methods: We developed a telemetry system in rabbits housed under a 12-hour light-dark cycle (light and dark phases: 7:00~19:00, 19:00~7:00, respectively). The IOP resulting from a single topical application of ocular hypotensive agents was measured by telemetry during the light phase and the dark phase.

Results: The values measured by the telemetry system were positively correlated to the value of the anterior chamber pressure measured by a transducer in a range from 5 to 50mmHg ($r = 0.987$). A single topical application of timolol maleate (0.5%), dorzolamide hydrochloride (1%), and dipivefrine hydrochloride (0.1%) caused no significant reduction in IOP in the light phase, but they did in the dark phase. A single topical application of bunazosin hydrochloride (0.01% or 0.1%) had significant ocular hypotensive effects in both phases.

Conclusion: These findings indicate that the different effects of ocular hypotensive agents on circadian rhythms of IOP can be measured by a telemetry system. Telemetry may be useful for evaluation of ocular hypotensive agents and the circadian rhythm of IOP.

Nippon Ganka Gakkai Zasshi (J Jpn Ophthalmol Soc 107:513-518, 2003)

Takahiro Akaishi¹, Atsushi Shimazaki¹, Takeshi Matsugi¹, Nobuaki Miyawaki¹, Hideaki Hara¹ and Yasuaki Kuwayama²

¹Research and Development Division, Research and Development Center, Santen Pharmaceutical Co., Ltd.; ²Department of Ophthalmology, Osaka Koseinenkin Hospital

DOI 10.1007/s10384-004-1010-x

The Influence of Hard Exudates on the Results of Vitrectomy for Macular Edema Due to Diabetic Retinopathy

Purpose: To demonstrate surgical results of diabetic macular edema from the distribution of hard exudates.

Methods: We reviewed 485 eyes of 325 patients followed up more than 1 year who underwent vitreous surgery for diabetic macular edema. Four groups were identified from the distribution of hard exudates in the macular region: no hard exudate type, 179 eyes; hard exudate type, 211 eyes; macular deposit type, 73 eyes; and waxy type, 22 eyes. We evaluated the preoperative characteristics, the period required for absorption of macular edema, visual outcome, and postoperative complications among the four types.

Results: In the waxy type, the macular edema was absorbed more slowly than in the no hard exudate type and hard exudate type ($p < 0.05$); more patients had proteinurea and were treated by grid photocoagulation before surgery than in the other types, and the rate of occurrence of rubeotic glaucoma and attrition by death was higher than in the other types. Visual acuity was significantly improved in all types postoperatively ($p < 0.05$). Preoperative and postoperative visual acuity were as follows: no hard exudate type, 0.28, 0.48; hard exudate type, 0.21, 0.33; macular deposit type, 0.10, 0.17; and waxy type, 0.04, 0.11.

Conclusion: The distribution of hard exudates was directly related to surgical results for diabetic macular edema. The waxy type had poor prognosis.

Nippon Ganka Gakkai Zasshi (J Jpn Ophthalmol Soc 107:519-525, 2003)

Sohei Nakamura¹, Nobuchika Ogino², Kazuyuki Kumagai², Mariko Furukawa¹, Kazunari Atsumi¹, Seiji Demizu², Hideyuki Kurihara³, Hitoshi Ishigooka⁴, Masayoshi Iwaki⁵ and Shiro Nishigaki⁶

¹Department of Ophthalmology Kami-iida First General Hospital;

²Shinjo Ophthalmologic Institute; ³Kurihara Eye Hospital;

⁴Department of Ophthalmology Kyoto Katsura Hospital;

⁵Department of Ophthalmology, Aichi University Medical School;

⁶Nishigaki Eye Clinic

DOI 10.1007/s10384-004-1011-9