

for retinal detachment, and 1500 25-gauge vitrectomies. No postoperative endophthalmitis occurred in any of the operated eyes. Furthermore, we have not encountered any corneal epithelial damage or corneal endothelial damage that can be attributed to 0.25% povidone-iodine, proving that this method is a highly safe disinfection method that can be used routinely.

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The Concentration of Povidone-Iodine for Preoperative Disinfection: Relation to Endophthalmitis Incidence

EDITOR:

THE PAPER BY SHIMADA AND ASSOCIATES¹ DESCRIBES AN elegant study in which repeated application of a low concentration (0.25%) of povidone-iodine was used intraoperatively to reduce intraocular bacterial load at the end of cataract surgery. We appreciate the safety parameters addressed by the authors: intraocular iodine concentration was measured and endothelial cell loss was assessed.

Generally, a 5% concentration of povidone-iodine is recommended for (peri) ocular disinfection before intraocular surgery.² We decided in 1998 to change the concentration of the povidone-iodine to be used for preoperative disinfection of skin and ocular surface from 5% to 1%. This decision was based on the experimental work of Berkelman and associates,³ indicating that lower concentrations of povidone-iodine led to a higher level of free iodine and thus to a higher bactericidal activity (the work of Shimada and associates was based on the same article).

From 1993 onwards, we have kept records of all endophthalmitis cases occurring after surgeries performed in the Rotterdam Eye Hospital (REH). All cases of endophthalmitis treated in our hospital are traced by means of both the

hospital registration of admission diagnosis and operating theater registrations. Serving as a cross check, all microbiological cultures of vitreous samples are reviewed as well. The REH being the largest referral center in the Netherlands, combined with our low-threshold 24-hour emergency service, prevents endophthalmitis cases occurring after surgery in the REH from “leaking” to other hospitals; this was recently confirmed by the ophthalmology department of the nearby university hospital, where no REH-induced endophthalmitis cases were treated during the described period.

From 1993 to 1998 we recorded an endophthalmitis rate of 0.14% in a total of 22 553 cataracts, compared to a rate of 0.10% during 1999 to 2010 in 72 916 cataracts ($P = .1$ for the difference in incidence between the 2 groups, Student *t* test). Phaco surgery was introduced in the REH in 1993 and other possible confounders like perioperative antibiotics (except for prophylactic intraocular antibiotics after complicated surgery from 2006 and onwards), air management, and draping techniques were not significantly different between the 2 periods.

We conclude that 1% povidone-iodine is at least as effective as 5% to prevent postoperative endophthalmitis. Of importance is that local dilution of povidone-iodine reduces the stability and must therefore be used within hours. We therefore use a commercially available stabilized 1% solution of povidone-iodine (Added Pharma, Oss, The Netherlands; www.addedpharma.com). As povidone-iodine aided ocular disinfection is a very crucial measure in endophthalmitis prevention,² data on the most effective concentration should play a role in future infection prevention protocols designed for intraocular surgery.

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REPLY

WE THANK VAN ROOIJ AND ASSOCIATES FOR THEIR FAVORABLE evaluation of our study.¹ For periocular disinfection before surgery, 10% povidone-iodine commonly is used in