

CORRESPONDENCE

Endophthalmitis After Intravitreal Injections in Patients With Self-reported Iodine Allergy

EDITOR:

WE CONGRATULATE MODJTAHEDI AND ASSOCIATES FOR demonstrating the effectiveness of povidone-iodine (PI) antiseptics in intravitreal injection (IVI) and the absence of allergic reaction in those with self-reported iodine allergy after PI antiseptics. The core issues are how to handle patients with presumed iodine allergy and how to manage those with true allergy, confirmed by positive skin testing. Endophthalmitis is the most dreadful complication of IVI¹; the 9.4% endophthalmitis rate in patients without PI, as reported by the authors, is alarming and unacceptable, and alternative PI prophylaxis (topical gatifloxacin 0.5%, moxifloxacin 0.5%, or Shur-Clens) has been shown to be ineffective.² At present, 5% PI antiseptics remains the only proven prophylaxis. Although there is a trend for shorter contact time, 5 minutes of contact is still the benchmark and should best be followed.¹

The different adverse reactions patients can experience from PI are mostly attributable to PI's chemical irritant effect or allergic contact dermatitis (type IV hypersensitivity), and should not be confused with the rare but life-threatening IgE-mediated type I hypersensitivity.³ Seafood or iodinated radiocontrast allergy is probably irrelevant to PI use; true allergy to iodine does not exist, as iodine is an essential mineral for thyroid hormone synthesis.⁴ There is also no cross-reactivity with povidone, a synthetic polymer in PI.⁴ Thus it may not be necessary to ask for allergy history of seafood or iodinated radiocontrast before applying PI antiseptics.

True allergy to povidone in PI does exist but is extremely rare. PI is used in tens of millions of ophthalmic cases each year, but no allergy cases have been reported so far. We propose the following action plan in patients requiring IVI with suspected, or a history of, PI allergy: Skin testing should be considered if a delay in treatment, perhaps up to 2 weeks, is acceptable. In positive skin testing cases, or if skin testing confers unacceptable delay, alternatives to PI should be considered. On the other hand, PI prophylaxis may still be used if patients are aware of the potential risk of PI allergy, which is rare and usually mild in nature, and agree to proceed. For patients requiring bilateral injections, it would be best to have the IVI done on separate days, after monitoring for any allergic reactions from the first injection.

We agree with the authors that although chlorhexidine is superior to PI as an antiseptics in preventing infections in

nonophthalmic applications, safety concerns have limited the use of alcohol-based chlorhexidine in ophthalmic use. Aqueous chlorhexidine, however, is commercially available as chlorhexidine gluconate 0.1% or chlorhexidine acetate 0.05%, and these concentrations have been proven safe. A recently published multicenter case series reported a 0.0074% rate of endophthalmitis per intravitreal injection after 40 535 injections when using 0.05% or 0.1% aqueous chlorhexidine for antiseptics,⁵ which is comparable to the rate with PI prophylaxis, and no cases of toxicity were reported in this series. Aqueous chlorhexidine antiseptics appears to be a good alternative to PI. Lastly, intracameral antibiotic, widely used in cataract surgeries, is readily available and inexpensive, and can be considered as another alternative to PI, especially when aqueous chlorhexidine is not available. If intracameral antibiotic is used, anterior chamber paracentesis would be needed to reduce the risk of intraocular pressure rise.⁶

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