Povidone effective for bacterial conjunctivitis

Pippa Wysong in Toronto

Common infectious causes of blindness can often be treated effectively with a few cents worth of povidone iodine, which is good news for areas of the developing world where expensive antibiotics are in short supply, according to Sherwin Isenberg MD Professor of Ophthalmology and Paediatrics, Jules Stein Eye Institute, UCLA, California, US.

Dr Isenberg described his research in association with Leonard Apt MD on povidone iodine in the developed world and in the developing world at a seminar at the Hospital for Sick Children in Toronto, Canada.

He noted that there are 1.5 million blind children in the world, and about 500,000 go blind annually. Many cases associated with chlamydia and other infectious organisms are preventable with appropriate treatment. Unfortunately in some parts of the world antibiotics and other treatments are not accessible because of high costs.

“While a 5% solution was found appropriate for preoperative use, that concentration can irritate the more sensitive eyes of newborns. The 2.5% solution was found effective and non-irritating on the eyes of neonates.”

Povidone iodine is now being used in many countries to treat or prevent eye infection. Because antibiotics are costly or unavailable in developing countries, povidone iodine may be a good alternative.

“Interestingly, it is not accepted for routine clinical use in the U.S. because the studies have not met the criteria requested by the Food and Drug Administration,” Dr Isenberg commented.

Elise Héon MD, from the Hospital for Sick Children told EuroTimes that she is impressed by the potential applications of povidone iodine. In Canada, ophthalmologists have only a small number of treatments available to prevent infections, and this low-cost alternative is very appealing.

“I find it mind-boggling to hear that a local disinfectant that we use everywhere, that could be 10-cents a bottle, could be used instead of a $30 bottle of antibiotics,” she said.

Effective for gonorrhoeal conjunctivitis

In this study povidone proved to be more effective than silver nitrate, and much more effective than erythromycin, which were the two medications used at that time, he reported.

Another study, a masked, prospective trial done in Kenya included 3,100 newborns at risk for gonorrhoeal conjunctivitis. Shortly after birth, each infant was given either 2.5% solution of povidone iodine, a 1% solution of silver nitrate, or a 0.5% erythromycin ointment in both eyes.

The follow-up results of that study showed that 13.1% of those who received povidone iodine had infectious conjunctivitis compared to 17.5% of those treated with silver nitrate and 15.2% of the erythromycin group. Povidone iodine was more effective against Chlamydia trachomatis than silver nitrate or erythromycin. The incidence of gonorrhoea and Staphylococcus aureus infections was similar in the groups.

Other clinical studies evaluated povidone iodine as a treatment for conjunctivitis in the Philippines. Patients with conjunctivitis between the ages of one month to 19 years were treated with either povidone iodine 1.25% or Neosporin.

In these studies povidone iodine was as effective as Neosporin for treating most types of conjunctivitis and was superior in the treatment of conjunctivitis caused by Chlamydia. However, povidone was not very effective against viral causes of conjunctivitis.

Comparative study underway for treatment of keratitis

A study has also been launched investigating the effectiveness of povidone iodine 1.25% in bacterial keratitis.

“This is the number one immediate cause of avoidable paediatric blindness in the world, with estimates of 300,000 to 400,000 children being blind from this disorder,” he said.

The study is being done of adult and paediatric patients in Manila, the Philippines and in two cities in India, comparing povidone iodine against either Neosporin or Ciprofloxacin.

Patients are randomised to specific treatment arms.

“They are given an eye-drop hourly for three to five days, then a tapered regimen. The patient is examined daily in the office and the ophthalmologist is masked with respect to the treatment being used, scrapes are done to determine the infecting organism,” he said.

A total of 200 patients are being recruited for the study, and data are now available on about half that number. The goal is to show equivalence of the treatment. If povidone iodine affects patients as well as the standard treatments, then it could be offered as a safe, lower cost treatment.

So far, the data suggest the number of days to cure is about the same between the treatments. In the two Indian cities, povidone iodine is showing a trend of being slightly better but the finding is not statistically significant.

Researchers are now gearing up to do a study using povidone iodine in fungal keratitis, another major cause of blindness in developing countries. Pilot data on a small sample of test patients showed that they responded to treatment with povidone, including one who was refractory to another treatment.

“The pilot data is very promising,” Dr Isenberg said.

As a result of these studies...