AIM AND OBJECTIVES

1. Describe the elaboration of 0.5% imipenem-cilastatin eye drops.
2. Evaluate the effectiveness and safety of this master formula.

MATERIAL AND METHODS

A 41-year-old woman goes to the Emergency Department for severe pain in the right eye. Commercial eye drops (0.3% tobramycin and 0.5% moxifloxacin) were being applied.

The Ophthalmology Department diagnoses infiltrated corneal ulcer with epithelial defect. In the microbiological culture of the contact lenses: Enterococcus faecalis and Achromobacter xylosoxidans are isolated. The antibiogram revealed sensitivity to B-lactams and resistance to tobramycin and quinolones. A corneal scraping was also carried out where growth of Fusarium spp was found.

The therapy was completed with 1% voriconazole and 5% natamycin for Fusarium.

RESULTS

We used the imipenem-cilastatin vial for intravenous use and water for injection, working in a horizontal laminar flow cabinet and following the standardized work procedure. A 0.22 micron filter was used. We established stability at 2-8°C for two days protected from light. It was verified that a completely transparent liquid with pH 7 had been obtained.

CONCLUSIONS

0.5% imipenem-cilastatin eye drops have proven to be a novel alternative in the treatment of corneal ulcers caused by Enterococcus faecalis and Achromobacter xylosoxidans. It shows a rapid and intense antibiotic effect that contributed to an eye inflammation reduction. It is also easy to apply, which facilitated therapeutic compliance and contributed to a shorter hospital stay. Its safety and tolerance profile was adequate.

References: Spanish Society of Hospital Pharmacy : https://www.sefh.es/