Introduction

Endophthalmitis is a rare but serious postoperative infectious complication following cataract surgery. According to the Agence française de sécurité sanitaire des produits de santé recommendations 2011, there is a preventative treatment to minimize it, consisting in the administration of an intracameral injection of 0.1 ml of cefuroxime 1mg/0.1mL, after a not complicated surgery. This treatment is not marketed and must be prepared within a Hospital Pharmacy.

Material and Method

A review of the literature was made according to 14 references, stemming Trissel's stability of compounded formulations, Handbook on injectable drugs, or databases such as Scopus. Keys words for research were: “stability, cefuroxime, intracameral, ophthalmic preparation, storage”.

On one hand various criteria were listed depending on the study: the concentration of the solution, the solvent, the conditions of storage and the stability data, on the other hand a value (quotation of 15 points) is attributed for each of study according to analytical criteria. Those are chemical criteria (pH, analysis method, stability indicating, respect for the analytical practices of laboratories, quality and quantity of the degradation products), physical criteria (visual such as color change, precipitation and subvisual such as turbidimetry, counting of particles) and interpretation criteria (definition of stability by authors). Studies are classified in a summary table.

Results

Hospital Pharmacy of Nancy University Hospital makes batches of syringes of 0.2 mL of cefuroxime 10 mg/mL of 0.9 % sodium chloride in 1 mL graduated polypropylene syringes. These hospital preparations are produced once a week and then stored at +4°C.

Discussion & Conclusion

The review of the literature has enabled to point out that freezing is essential to a shelf life beyond 7 days. Furthermore, this mode of preservation assures a stability until 4 months. At -21°C, a 10 mg/mL cefuroxime solution in BSS was stable for 28 days and in 0.9 % NaCl for 4 months. The way of storage in the Nancy University Hospital should evolve to increase the duration of stability of its preparations, indeed the best way to preserve for a long time is freezing.

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