the effectiveness and safety of the eye drops in a premature infant.

Material and methods Case description: a premature infant (26 weeks' gestation) was diagnosed with conjunctivitis due to *Stenotrophomonas maltofilia* multi-resistant, sensitive to levofloxacin. The neonatal intensive care unit requested the manufacture of levofloxacin based eye drops.

The pharmacy service initiated a bibliographic search to find out the indication, dosage, manufacture and stability of levofloxacin 0.05% based eye drops.

Results We decided to prepare it with injectable levofloxacin 500 mg/100 mL, taking into account the physical and chemical characteristics an ophthalmic drug should have:

- non–contraindicated excipients (injectable excipients: water, HCl and NaOH);
- acceptable pH (4.4–5.5) and osmotic concentration (300–310 mOsm/l).

We packaged the parenteral solution in a horizontal laminar flow cabin, filtering it with a 0.22 µm filter, in a light protected eye drops bottle. We checked whether it was clean and particle free. The validity period was established: 9 days inside a refrigerator, according to the risk matrix for sterile preparations included in the 'Guía de Buenas Prácticas de Preparación de Medicamentes'.

The patient was started on treatment with levofloxacin 0.05% eye drops with the following dosage regimen: 1 drop every 6 hours. We recommended including the nasolacrimal canal for at least 2 min in order to avoid systemic absorption of the eye drops when administered via the eyes and to decrease any systemic adverse reactions. The patient showed good progress, so we decided to interrupt the treatment after 7 days due to symptomatic improvement with no conjunctivitis secretion. The eye drops were well tolerated.

Conclusion and relevance To manufacture eye drops it is necessary to know the physical and chemical characteristics of the active substance (pH, osmotic concentration and excipients), to ensure that it is effective, safe and stable.

The eye drops were effective and well tolerated in this premature infant, which means that it can be considered as a good option for other patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-008 INTRAVENOUS PERFUSION OF CEFTOLOZANE–TAZOBACTAM USING ELASTOMERIC INFUSION PUMPS

S Rotea*, M García, B Feal, C Fernández, V Giménez, I Martín. *Hospital Pharmacy, Complejo Hospitalario Universitario A Coruña, A Coruña, Spain*

10.1136/ejhpharm-2020-eahpconf.55

Background and importance Ceftolozane–tazobactam (CT) intravenous infusion using portable elastomeric infusion pumps (EIP) is useful, especially in patients infected with resistant bacteria.

Aim and objectives The aim of the study was to describe CT infusion using EIP (CT-EIP) and analyse the healthcare costs avoided versus hospital admission.

Material and methods This retrospective study included all patients treated with CT-EIP. The study period was January 2017 to October 2019. Recorded data were clinical data obtained from patient electronic medical records. For the economic evaluation we considered costs of the EIP, nurse working time needed for preparation and cost of the hospital at home care unit (HHU). The cost of the medication was not included as it was the same whether the patient was in hospital or at home. Physician and pharmacist working time was not analysed as it was considered that hospital admission and management by the HHU were equivalent.

For the calculation of hospital admission costs, the regional normative was considered: a day at the HHU costs € 80.70, and the cost per hospital admission day is € 528.95. Nursing work needed for preparation of the EIP costs € 15.81/hour (a nurse prepares an average of 10 EIP/hour).

Baxter Healthcare Corporation manufactured the EIP used: 24 hour duration devices (240 mL/24 hours, flow rate 10 mL/hour) for continuous perfusion or 30 min duration devices (100 mL/30 min, flow rate 200 mL/hour) for intermittent perfusions.

The unit cost of EIP was € 25.63 for the 240 mL/24 hour devices (needed 1/day) and € 15.40 for the 100 mL/30 min one (needed 3/day). Average cost per day of treatment with CT-EIP were € 35.91 (range € 25.63–46.20/day).

Results A total of 220 CT-EIP were prepared for 10 patients (5 men, 5 women; mean age 58.1 years (range 19–90 years) with hospital acquired pneumonia (6), off-label situations (2), severe abdominal infection (1) and severe urinary infection (1). Microorganisms isolated were *Pseudomonas aeruginosa* (10/10 patients); *Staphylococcus aureus* (2/10); *and Escherichia coli* (1/10). Eight of 10 patients were treated with concomitant antibiotic. Treatment took an average of 13 days (range 7–29) per patient with CT-EIP.

Seven of 10 patients were managed by HHU and the rest had ambulatory care after hospital discharge. Successful progression occurred in five patients. Five patients died due to other severe pathologies (cancer, cystic fibrosis, acute rejection, etc).

The avoided estimated cost was € 55 856.26.

Conclusion and relevance CT-EIP was a cost effective alternative, which enabled patients to stay at home, avoiding unnecessary hospital admission and improving their quality of life.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-009 TREATMENT OF RECURRENT OTOMYCOSIS WITH LOCAL APPLICATION OF A COMPOUNDED FORMULATION OF VORICONAZOLE EAR DROPS: CASE SERIES

[1]L Carrasco Piernavieja, [1]E Zhan Zhou*, [1]M Dominguez Bachiller, [1]AM Martín De Rosales Cabrera, [2]MS Marcos Salazar, [1]M Perez Encinas. *[1]Hospital Universitario Fundación Alcorcón, Hospital Pharmacy, Alcorcón, Spain*; *[2]Hospital Universitario Fundación Alcorcón, Otorhinolaryngology, Alcorcón, Spain*

10.1136/ejhpharm-2020-eahpconf.56

Background and importance Otomycosis is a suppurative fungal infection that affects the external auditory canal. Patients have a high rate of recurrence and are prone to invasive fungal infections after receiving limited therapeutic options with low response.

Aim and objectives The aim of the study was to describe the use of a sterile formulation of topical voriconazole ear drops

Eur J Hosp Pharm: first published as 10.1136/ejhpharm-2020-eahpconf.56 on 24 March 2020. Downloaded from http://ejhp.bmj.com/ on March 1, 2024 by guest. Protected by copyright.

(VE) for the treatment of otomycosis and analyse its effectiveness and safety.

Material and methods Antifungal ear drops are not commercially available. The otolaryngology service requested a broad spectrum topical antifungal for recurrent otomycosis. After a literature review, a sterile aqueous formulation of voriconazole 10 mg/mL was considered, ensuring the absence of ototoxic effects, with an optimal pH of 6.3 that allowed contact with the external channel. We assigned a beyond use date of 14 days refrigerated, 45 days frozen and protected from light.

Baseline data were collected from the clinical history. Patients reported their outcomes in interviews with the pharmacists,: humidity, otorrhoea, earache, itching, loss of hearing before/after treatment and possible adverse events (AE) were recorded. Patients were informed and consent was requested for participation. Statistical analysis was made with SPSS and STATA. The results were analysed using the McNemar test of paired data.

Results Following the macroscopic finding of hyphae, microbiological culture was requested in 55.5% of cases, and *Candida* (33%) and *Aspergillus* (22%) isolates were found. All patients were treated previously with topical drugs (94.4% antibiotics, 55.5% antifungals) and 83.3% also with oral agents (83.3% antibiotics, 22.2% antifungals), without improvement. Eighteen patients (58.8% women, median age 67 years (range 44.5–75)), were treated with VE for an average of 4 weeks (SD 1.8), administering 1–2 drops 2–3 times a day.

Interviews were conducted in 14 patients: 93.3% reported a general improvement in symptoms and 86.7% associated it with VE. Patients experienced a significant improvement in humidity (pre 88.2%, post 13.3%, $p<0.05$), otorrhoea (pre 100%, post 6.7%, $p<0.05$), earache (pre 41.2%, post 0%, $p<0.05$) and itching (pre 41.2%, post 6.7%, $p<0.05$), and 36.4% perceived an improvement in hearing loss ($p>0.05$). Only one AE (mild tingling) was recorded.

Conclusion and relevance Our observations showed that voriconazole ear drops were an effective and safe option that significantly reduced symptoms in patients with recurrent otomycosis which failed to respond to other therapeutic alternatives. Further prospective studies are needed to confirm these findings.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-010 EVALUATION OF THE PRODUCTION ACCURACY AND ERROR RATE IN THE AUTOMATED COMPOUNDING OF CYTOTOXIC PREPARATIONS BY A ROBOT

[1]BR Kujau, [2]J Raffaelli*, [1]C Klaas. *[1]Universitätsklinikum Münster, Zentrale Einrichtung Apotheke, Münster, Germany; [2]Loccioni Deutschland Gmbh, Humancare, Calw, Germany*

10.1136/ejhpharm-2020-eahpconf.57

Background and importance In chemotherapy compounding, the accuracy of the preparation is related to patient safety. A fully automatic production through a robotic system should ensure not only complete documentation and minimisation of the risk of pharmacy personnel being exposed to toxic drugs, but also greater accuracy of the compounding, consequently improving patient safety.

Aim and objectives The study aimed to verify the production accuracy of APOTECAchemo as well as the error rate of the robot during compounding.

Material and methods Using the statistical software 'APOTECAm@A', which allows regular checking of the performance of the robot, the pharmacy production of 20 anticancer active ingredients was monitored from January to October 2018, focusing on the dosage accuracy (%) of the preparations automatically compounded and the robot error rate.

The results of the analysis will define the performance of the automation in terms of preparation quality and safety, and production efficiency in the daily routine of the pharmacy.

Results During the study period, 8478 automated preparations were compounded with APOTECAchemo by the pharmacy. The error rate of the robot was ~1% of the total automated production. Regarding the accuracy of the successful preparations compounded by APOTECAchemo, 97.5% of the preparations had a dosage accuracy between 0 and ±3%. The remaining 2.5% of the preparations produced with the robotic system were within the ±5% tolerance limits defined by the pharmacy as acceptable.

Conclusion and relevance The analysis carried out by APOTECAm@A showed high dosage accuracy in combination with a low percentage of errors in the automated production. The data show high quality as well as high reproducibility of safe production using APOTECAchemo.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-011 CLOSED SYSTEM TRANSFER DEVICE BASED ON AIR FILTRATION: THE DRUG VAPOUR CHALLENGE

G Levin*. *Simplivia Healthcare, Research and Development, Hod Hasharon, Israel*

10.1136/ejhpharm-2020-eahpconf.58

Background and importance Chemotherapy drugs were shown to form hazardous vapours that pose a health risk to pharmacists and nurses. One of the aims of using a closed system transfer device (CSTD) is to prevent this harmful exposure. The vapour containment efficiency of air filtration CSTDs is perceived as less obvious compared with that of physical barrier based CSTDs, and therefore should be proven throughout the shelf life of these devices in order to support the claims of its instruction for use (IFU).

Aim and objectives The aim of the study was to test the drug vapour containment capacity of Chemfort, a new air filtration CSTD. The objective was to investigate if the air filter remained fully functional at the end of the shelf life (3 years). According to the IFU, the device can be used on a drug vial for a period of 7 days, and thus the study also tested the filter functionality after it was exposed to vapours of a hazardous drug for 7 days.

Material and methods The study was performed by Nextar Labs (Nes Ziona, Israel). Vial adaptors (VA) were applied on drug vials (cyclophosphamide, 5-fluouracil (5-FU)). Extreme conditions were used to generate vapours—heating to 50°C and having a nitrogen gas flow (250 mL/min) into the vial for 5 hours via the VA fluid pathway. A closed test chamber was employed for capturing drug vapours. Vapours released through the air filter were trapped, recovered and quantified using validated LC/MS/MS methods. As a positive control,

Eur J Hosp Pharm: first published as 10.1136/ejhpharm-2020-eahpconf.56 on 24 March 2020. Downloaded from http://ejhp.bmj.com/ on March 1, 2024 by guest. Protected by copyright.