

## REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

3PC-045

### RETROSPECTIVE STUDY OVER 6 YEARS OF THE TREND IN FUNGAL CONTAMINATION OF CONTROLLED ATMOSPHERE AREAS WITHIN A CELL THERAPY UNIT

<sup>1</sup>TRM Hien\*, <sup>1</sup>A Jullien, <sup>1</sup>V Persoons, <sup>2</sup>A Moisan. <sup>1</sup>Établissement Français du Sang, Département de Contrôle Qualité, Saint – Ismier, France; <sup>2</sup>Établissement Français du Sang, Département de Production, Saint – Ismier, France

10.1136/ejhp-pharm-2024-eahp.102

**Background and Importance** Moulds are aerobic eukaryotic organisms naturally present in the environment. According to regulations, no mould should be present in a controlled-atmosphere zone (ZAC).

According to the literature, fungal spores can reach significant quantities, up to several 10, 000's of particles/m<sup>3</sup> of ambient air. The highest concentrations are found during the summer-autumn period in Europe. *Cladosporium spp* is the predominant species in most studies, with concentrations of over 4,000 CFU/m<sup>3</sup> of ambient air.

The trend in outdoor air contamination is well known, but few articles deal with the trend in fungal contamination in ZACs.

**Aim and Objectives** The primary objective of this study was to determine whether there is a seasonal trend in contamination in ZACs. The secondary objectives were to determine the most frequent moulds and the effect of factors such as air conditioning, hygrometry and temperature on fungal contamination in ZACs.

**Material and Methods** Based on microbiological surveillance register of the ZACs at the Saint-Ismier cell therapy and engineering unit, we collected the contaminated samples without counting the number of CFUs contained in this contamination. When available, identification was provided. The variables of temperature, hygrometry and air conditioning were collected using centralised technical management software for equipment and premises. All the data collected was recorded manually in a Microsoft Excel spreadsheet, with data double-checked at the time of collection. Statistical tests were performed on this table.

**Results** The results of the trend analysis showed a significant difference between fungal contamination frequencies in ZACs depending on the season. Autumn and summer are the seasons with the highest risk of fungal contamination. The main species in our study were *Cladosporium, spp* and *Penicillium, spp*.

**Conclusion and Relevance** These results show that the evolution of fungal contamination in ZACs reflects that of external environment. Indeed, although ZAC air treatment systems are capable of filtering large quantities of fungal spores, factors such as personnel, materials and consumables are potential vectors for microbial transfer.

## REFERENCES AND/OR ACKNOWLEDGEMENTS

1. Avis de l'Anses Rapport d'expertise collective.pdf.
2. Basílico M de la LZ, Chiericatti C, Aringoli EE, Althaus RL, Basílico JC. Influence of environmental factors on airborne fungi in houses of Santa Fe City, Argentina. *Sci Total Environ*. 15 avr 2007;**376**(1):143–50.

Conflict of Interest No conflict of interest.

3PC-046

### RISK OF PERSONNEL EXPOSURE TO HAZARDOUS DRUGS IN ROBOTIC COMPOUNDING

<sup>1</sup>AC Riestra Ayora\*, <sup>1</sup>O Olariaga, <sup>1</sup>M Urretavizcaya, <sup>2</sup>A Asensio, <sup>1</sup>MJ Tamés, <sup>1</sup>A Iglesias, <sup>1</sup>MJ Argandoña, <sup>1</sup>Y Camba. <sup>1</sup>Onkologikoa, Pharmacy, San Sebastián, Spain; <sup>2</sup>Hospital Universitario Donostia, Pharmacy, San Sebastián, Spain

10.1136/ejhp-pharm-2024-eahp.103

**Background and Importance** Continuous occupational exposure to hazardous drugs (HD) poses significant risks to healthcare personnel. Robotic compounding systems have been introduced in pharmacies to enhance patient and staff safety. These systems operate within enclosed ISO Class 5 environments with negative pressure, which effectively minimising personnel exposure to HD during critical operations. However, there is a concern that surfaces in the compounding area may get contaminated, potentially exposing hospital personnel to these hazardous substances.

**Aim and Objectives** The primary objective of this study was to evaluate the risk of occupational exposure to HD when utilising robotic compounding systems for the preparation of anti-neoplastic sterile medications. Specifically, we aim to assess the levels of HDs present on the surfaces of ready-to-use preparations and on the gloves worn by personnel involved in the compounding process.

**Material and Methods** This study was conducted over a period of 3 days during routine production at KIRO Oncology (Kiro Grifols, Mondragon, Spain). Each day, we collected wipe samples from the surfaces of 20 HD preparations and from the gloves of the operator engaged in the compounding process using Cytoxlab sampling kits (CYTOXLab, Geneva, Switzerland). Our analysis included the detection and quantification of 25 anticancer molecules commonly used in hospital pharmacies.

**Results** Throughout the study, 19 different drugs were compounded by the robot, including 5-fluorouracil, bevacizumab, carboplatin, cisplatin, cyclophosphamide, docetaxel, doxorubicin, eribulin, etoposide, gemcitabine, irinotecan, nivolumab, oxaliplatin, paclitaxel, panitumumab, pembrolizumab, pemetrexed, trastuzumab, and vinorelbine. We observed only a negligible amount of gemcitabine, which fell below the quantification limit (<0.005 ng/cm<sup>2</sup>), on the surfaces of two out of the 20 bags and on two of the operator's gloves.

**Conclusion and Relevance** The results of this study demonstrate that levels of HD surface contamination in robotic compounding are exceedingly low and, in most cases, undetectable. Occupational exposure to HD remains consistently below 0.1 ng/cm<sup>2</sup>, a threshold deemed 'safe' according to certain studies. This finding assures the safety of the compounding personnel and other hospital staff members involved in cancer treatment.

## REFERENCES AND/OR ACKNOWLEDGEMENTS

This research was partially supported by Kiro-Grifols.  
Conflict of Interest No conflict of interest.

3PC-047

### PAEDIATRIC IV ANTIFUNGAL ADMIXTURES: CENTRALISATION'S ECONOMIC CONSEQUENCES

A Prieto Romero\*, F García Moreno, MS Pernia Lopez, P Ruiz Briones, A Carrillo Burdallo, S Herrero Bermejo, B Somoza Fernandez, I Taladriz Sender, A Herranz Alonso, M Sanjurjo Saez. Hospital General Universitario Gregorio Marañón, Pharmacy, Madrid, Spain

10.1136/ejhp-pharm-2024-eahp.104