

P1059
Paper Poster Session
Outbreaks

Feeling thirsty? A pseudo-outbreak with fungal contamination of soft drinks in a haematological isolation unit

Benedikt Wiggli¹, Stefan Erb², Jakob Passweg³, Reno Frei⁴, Manuel Battegay⁵, Andreas F. Widmer^{*6}

¹*Division of Infectious Diseases and Hospital Epidemiology, Basel, Switzerland*

²*University Hospital Basel, Division of Infectious Diseases and Hospital Epidemiology, Basel, Switzerland*

³*Universitätsspital Basel, Klinik Für Hämatologie, Division of Hematology, Basel, Switzerland*

⁴*University Hospital Basel, Department of Laboratory Medicine, Division of Clinical Microbiology, Basel, Switzerland*

⁵*University Hospital Basel, Division of Infectious Diseases & Hospital Epidemiology, Basel, Switzerland*

⁶*University Hospital Basel, DIV. of Infectious Diseases & Hospital Epidemiology, Basel, Switzerland*

Background: Bottled soft drinks (BSD) are considered safe and are not recognized as health threat for the immunocompromised host. In Switzerland, microbiological standards require BSD to be free of fecal bacteria and turbidity as evidence for microbial growth. However BSD do not have to be sterile. BSD are consumed by patients with leukemia, in particular when they suffer from mucositis during neutropenia. All BSD at the University Hospital Basel fulfill the regulatory requirements for food and drinks. They are stored at room temperature, and once opened discarded, if not consumed the same day.

In July 2015, the bottleneck of an orange-flavoured soft drink used by a patient recently stemcell transplanted at the haematological isolation unit was found to be contaminated with mold-suspicious deposits. It triggered an outbreak investigation to evaluate extend and type of the contamination.

Material/methods: Bottles delivered to the Division of Hematology underwent visual inspection and microbiological analysis. 50 ml of BSD were centrifuged and cultured on blood agar and Sabouraud agar. Lot numbers were recorded. All data from routine surveillance were double-checked to identify all patients with possible or probable fungal infection. Data on type and number of bottles consumed by patients were not recorded.

Results: 29 bottles of the BSD were stored at the isolation unit, and more than hundred more within the whole hospital. On visual inspection 11 bottles showed evidence for mold contamination by discolouring on the bottleneck (Figure 1), all were of orange flavour and from the same lot (58% of examined bottles of the affected lot). All bottles were within the expiry date. Fungal culture of the deposits and the fluid was performed from contaminated bottles: All showed growth of *Penicillium* sp. (Figure 2) and 25% *Aspergillus fumigatus*.

A temporary faulty mechanism in the filling process that led to spill over the top of the bottle was identified as the most likely cause of the contamination. A very hot summer – the factory has not air condition - may have contributed to the contamination.

All BSD from the same manufacturer at our institution were recalled. One immunocompromised patient at the haematological isolation unit had drunk from the contaminated BSD and was put under antifungal prophylaxis with voriconazole. Intensified surveillance did not show evidence for fungal infection possibly associated with BSD.

Conclusions: BSD may be contaminated with mold even if they are properly stored and are within shelf-life. Current legislation allows for fungal spores in BSD, but may pose a health risk to patients with haematological malignancies. Healthcare workers should be trained to perform visual checks before delivering BSD to patients. Our data provides evidence that hospitals should review their infection control guidelines or the severely immunocompromised and adjust the recommendations.

Figure 1:

