

P2088 **Multi-centre study of Mucorales and other mould contamination of freshly-laundered linens arriving at US hospitals**

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**Background:** Several mucormycosis outbreaks have been linked to hospital linens. Linen facilities servicing U.S. hospitals can attain voluntary certification from the Healthcare Laundry Association Council (HLAC) and/or Textile Rental Service Association (TRSA), which includes some biologic testing. However, there are no U.S. governmental regulations for biologic surveillance of linen facilities, or accepted definitions of "hygienically clean" linens. Our objective was to determine culture-positivity rates for Mucorales and other moulds on linens arriving at U.S. hospitals.

**Materials/methods:** A dedicated team performed RODAC (25cm<sup>2</sup>) cultures on linens immediately upon arrival at 11 U.S. hospitals that care for transplant recipients. The benchmark for defining linens as hygienically clean was pathogenic mould culture-positivity in <10% of items, as adapted from bacterial recommendations.

**Results:** 64% (7/11) and 36% (4/11) of linen facilities were HLAC and TRSA-certified, respectively. Linens at 45% (5/11) and linen carts at 18% (2/11) of hospitals were unclean upon visual inspection at arrival, with evidence of hair, lint, soilage, or insects. Pathogenic moulds (Mucorales, Aspergillus, Fusarium, dematiaceous, Paecilomyces, Geotrichum) were recovered from linens at each center. Linen culture-positivity at 82% (9/11), 36% (4/11) and 27% (3/11) of hospitals exceeded the 10% benchmark for pathogenic moulds, Aspergillus and Mucorales, respectively. Percentages of culture-positive linens at individual hospitals ranged from 4-76%, 0-59%, and 0-24%, respectively. Percentages of culture-positivity for pathogenic moulds and Mucorales correlated with relative humidity measured at the site. There was no correlation between either HLAC or TRSA certification and linen cleanliness or pathogenic mould contamination. At a linen facility supplying one hospital, a site of mould contamination in the laundering process was identified and remediated. Pathogenic mould contamination was reduced from >80% (25% Mucorales) to 3% (0% Mucorales) of items.

**Conclusions:** Linens were significantly contaminated with pathogenic moulds upon arrival at most participating U.S. transplant centers, often with Aspergillus or Mucorales. HLAC and TRSA certification is inadequate for assuring that linens are hygienically clean of moulds. Regulations for biologic surveillance and targets for acceptable culture-negativity of moulds are needed for hospital linens in the U.S. It is possible to reduce mould contamination of hospital linens by targeted remediation in laundering facilities.