TITLE: ISOLATION OF FUNGI IN FILTERS HEPA FROM INHALATION ANESTHESIA EQUIPMENT

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ABSTRACT:

In recent years, mainly in the hospital environment, there is an increase in infections caused by highly pathogenic fungi. The objective of this study was to evaluate the incidence of fungi in the HEPA (High Efficiency Particulate Air) filter of the vacuum pump of anesthesia equipment. For the isolation of the fungi, 11 vacuum pump filters from inhalation anesthesia devices with one year of use, provenient from ICUs of three hospitals in the city of Bauru (SP), were used. The HEPA filters contained within the polyethylene capsules were opened with sterile scalpel (in type II biological hood), removed with sterile forceps, sectioned and dipped in sterile water, shaken for 5 minutes and allowed to stand for 20 minutes. The fragments were seeded in Petri dishes, containing Sabouraud Dextrose Agar, in duplicate, incubated at 37 ° C for 24 to 48 hours for yeast culture and at 25 ° C for 24 to 72 hours for mold growth. The molds and yeasts were identified through macroscopic and microscopic characteristics by usual methods of identification. Twelve genera of fungi were isolated: *Aspergillus niger, Aspergillus fumigatus, Candida albicans, Fusarium sp, Cladosporium, Cephalosporium sp, Trichoderma sp, Penicillium sp, Rhodotorula rubra, Mycelia sterilia, Helminthosporium sp and Aspergillus sp,* with UFC (Colony Forming Unit) / m^3 ranging from 5 to $1x10^3$. The relevant fact was the isolation of *A. niger , A.fumigatus* and *C. albicans* in all the filters analyzed, since these species are indicated as agents of frequent hospital infections, mainly in immunosuppressed patients. Based on the results obtained, it is concluded that HEPA filters are indispensable as biosafety items, since they capture and prevent pathogenic fungi from being agents of hospital infections and, on the other hand, can serve as parameters for the control of hospital ICU contamination.

Keywords: HEPA filters. Fungi. Pump vacuum. Inhalation Anesthesia Apparatus.