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Medical devices for cystic fibrosis care may be portable reservoirs of potential pathogens

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Letter to the Editor

Medical devices for cystic fibrosis care may be portable reservoirs of potential pathogens

Sir,

As recently reported, there is increasing association between the opportunistic pathogen *Stenotrophomonas maltophilia* and pulmonary exacerbations in cystic fibrosis (CF) ¹. There has been further literature regarding approaches for surveillance of *S. maltophilia* in this patient population, potential prediction of clinical outcomes based on such monitoring and, in light of escalating incidence of multidrug resistance ², the potential benefit of subsequent early and appropriate antimicrobial treatment ^{3,4}.

In response to an observation made by a nine-year old CF patient at his routine clinic visit that the plastic tubing of his Positive Expiratory Pressure (PEP) therapy device (TheraPEP[®]) had become discoloured, microbiological analysis of swabs confirmed presence of *S. maltophilia*. While cognisant that *S. maltophilia* has been identified in hospital-use devices such as ventilators, humidifiers and nebulizers used to deliver aerosolized therapy to inpatients with cystic fibrosis ⁵, as well as hospital tap water and water used for bronchoscope flushing ⁶, we are not aware of any previous reports of its isolation from portable home- and hospital-use devices. A detailed review of available guidelines for nebuliser care by O'Malley reported that, against Cystic Fibrosis Foundation guidelines, manufacturers sometimes advised use of tap water as a final step in rinsing respiratory equipment, when sterile water should be used ⁷. This instance of contamination may have occurred due to that practice.

PEP devices are ubiquitous in hospital CF care. Therefore, although there have been reports of successful elimination of biofilm and microbial contamination reservoirs in other hospital sites such as washbasin U-bends ⁸, vigilance regarding portable pulmonary devices may help in preventing outbreaks such as that caused by *S. maltophilia* forming a biofilm in the flexible plastic tube attached to a carbon filter for potable water in an ICU kitchen ⁹.

The detection of a potential CF pathogen in a patient's TheraPEP[®] device raises the possibility that physiotherapy airway clearance adjuncts may themselves represent a source of airway infection.

Competing interests None declared.

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