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Infection and colonization due to *Achromobacter xylosoxidans* in an intensive care unit: Role of endoscopes

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Background & Aim: In 2015, our hospital acquired infection (HAI) surveillance system detected unexpected and rare pulmonary infections and colonizations due to *Achromobacter xylosoxidans* (Ax) among patients hospitalized in the intensive care unit (ICU) of our 600-bed hospital. A pulmonary endoscopy had been performed on most of those patients. In order to break the transmission chain, we conducted an investigation to identify the potential source for the infections.

Material & Methods: A case definition was completed and all medical records of cases were reviewed with the ICU medical staff. Audits were conducted on endoscopy procedures, hand hygiene compliance (HHC) and laboratory procedures. In addition to that, an audit was carried out to assess the safety level of endoscopes disinfection procedures. Samples were obtained from the ICU environment (water, antiseptics and surfaces) in addition to samples of all the endoscopes used during the concerned period. Ax strains were sent to the National Reference Laboratory. Finally, a case-control study aiming to find risk factors was conducted.

Results: Between 09/2013 and 08/2014, six infections and 10 colonizations were diagnosed. All environmental samples were negative for Ax, but samples taken from the sinks and taps were positive for *Pseudomonas aeruginosa*. The samples of endoscopes, antiseptics and surfaces were all negative. The HHC audit revealed poor compliance among health care workers. The case-control study clearly showed that an endoscope was associated with the presence of Ax ($p<10-3$).

Conclusion: After removal of this endoscope, no further cases were diagnosed. In this outbreak, no Ax strain was isolated from the endoscopes or in the ICU environment and the case-control study was critical in ending the episode. This study therefore showed the importance of obtaining reliable data to conduct the case-control study and the need for good traceability of these data.

Biography

Zoher kadi is currently working as an expertise in Picardie regional center for nosocomial infections control. She has published numerous research papers and articles in reputed journals and has various other achievements in the related nosocomial studies. She has extended his valuable service towards the scientific community with his extensive research work.

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