

O123

Abstract (oral session)

A prolonged hospital outbreak with metallo-beta-lactamase producing *Pseudomonas aeruginosa* in a burn centre and intensive care unit linked to an environmental reservoir

B.M.W. Diederren*, C.J.R. Hattink-Malipaard, A.F.P.M. Vloemans, I. Hene, S.M. Euser, W.A. van der Reijden, I.F. van Ess (Haarlem, Beverwijk, NL)

Background: A prolonged outbreak with a VIM-2-producing PA strain among 22 patients admitted to the intensive care (ICU) unit or Burn Centre (BC) of a regional teaching hospital in The Netherlands was investigated. **Methods:** A case was defined as laboratory-confirmed infection with a strain of PA resistant to meropenem, imipenem and ciprofloxacin (MBL-PA). We conducted an epidemiological investigation, case-control studies, molecular genotyping, performed surveillance cultures from hospitalized patients and health care workers (HCWs) and environmental cultures. **Results:** Between February 2006 and March 2011, 22 cases of MBL-PA were identified, 14 patients admitted to the BC and 8 patients admitted to the ICU. The affected patients were aged 36 to 93 years (mean 62 years), 12 males and 10 females. Molecular typing showed that strains were genetically identical and carried blaVIM2. All surveillance cultures from HCWs tested negative. Environmental cultures were positive for MBL-PA in the sink plughole in ICU room 1 and BC room 4. A stay in ICU room 1 or BC room 4 was found to have a strong association with the acquisition of a MBL-PA strain, with an odds ratio of 75 (95% CI, 4 to 1434) and 6 (95% confidence interval, 1 to 38), respectively. The affected sinks were decontaminated and the siphons replaced, and a decontamination policy for all sinks on both wards was implemented. To date, no new cases of MBL-PA colonisation or infection have been identified.

Conclusions: In this study, acquisition of the outbreak strain was significantly associated with exposure to two patient rooms. Although the environment serves as a reservoir for a variety of micro organisms, it is rarely implicated in disease transmission. We stress the importance of the environment as a potential reservoir for infections with multidrug resistant pathogens such as MBL-PA.