

Use of hydrogen peroxide vapour (HPV) for environmental control during a *Serratia* outbreak in a neonatal intensive care unit (NICU)

Royal Hallamshire Hospital, Sheffield Teaching Hospitals NHS Foundation Trust

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Case study contributors:

Christine J Bates (Consultant Microbiologist, Sheffield Teaching Hospitals NHS Foundation Trust, UK), Richard Pearse (Consultant Neonatologist, Sheffield Teaching Hospitals NHS Foundation Trust, UK), Jonathan A. Otter (BIOQUELL (UK) Ltd).

A neonate admitted to our 12-bedded NICU was found to be colonised with *Serratia marcescens*. The outbreak strain was transmitted to two further neonates in adjacent cots on the unit. Infection control procedures were enhanced with a focus on improved hand hygiene. However, six weeks later, another neonate was found to be colonised. Environmental sampling of the unit identifies environmental contamination with the outbreak strain at low frequency, but on hand-touch sites on the outside of incubators. We considered this as an indication for special decontamination procedures. Our NICU is split into two 6-bedded rooms so the affected neonates were cohort isolated and a temporary 4-bedded room was opened to retain a limited capacity for admissions. Each room was decontaminated using a standard detergent sanitiser followed by HPV after the discharge of affected neonates. The outbreak strain was not cultured following HPV and no further neonates were colonised with *S. marcescens*. No damage or malfunctioning was detected in the equipment decontaminated in the unit, which included the incubators, ventilators and monitoring equipment. HPV provided a safe and practical means for the eradication of environmental *S. marcescens* from the NICU, which may otherwise have resulted in a continuation of the outbreak. This was clinically helpful in allowing beds to be re-opened quickly, in a specialty in which the number of beds is frequently inadequate.



Other information or references:

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BIOQUELL UK Ltd, 52 Royce Close, West Portway, Andover, UK. SP10 3TS
Tel: +44 (0)1264 835835 Email: enquiries@bioquell.com