

Transmission of vancomycin resistant *Enterococcus faecium* controlled by deep cleaning and enforcement of standard precautions

Mette Detlefsen¹, Lise Andersen¹, Sanne Kjær Hansen¹, Anette Holm¹, Aase Toftegaard², Hans Jørn Kolmos¹

1: Department of Clinical Microbiology, Odense University Hospital, Denmark

2: Department of Haematology, Odense University Hospital, Denmark

Background

At Odense University Hospital, Denmark, vancomycin resistant *Enterococcus faecium* (VREfm) was a rare finding until mid-2016 when numbers started to rise among patients admitted to the intensive care unit and the haematology department.

Whole Genome Sequencing (WGS) of the VREfm in June 2017 suggested that patient to patient transmission took place in the haematology department. **The outbreak involved seven patients.**

For further information regarding the WGS: Cg-MLST reveals a more differentiated transmission than MLST in a rise of VRE in a University Hospital. S.K. Hansen, HIS paper number 37.

Materials / methods

Patient admission histories suggested transmission through environmental surfaces. An audit in the department revealed need for improvement of compliance with standard precautions, particularly **hand hygiene**, cleaning and disinfection of utensils and patient care items, and basic cleaning of the ward.

A **tidying up** of the entire department took place before cleaning the environment, followed by non-touch automated disinfection with hydrogen peroxide or manual disinfection with chlorine. This was performed not only in patient related rooms, but also in rinsing, storage, and staff rooms. Curtains between patient beds were replaced with **privacy screens with hard wipe surfaces.**

Results

After the interventions, **no further patients** with VREfm related to the outbreak strain were found. The interventions also resulted in a reduced incidence of VREfm in the Intensive Care Unit.

Conclusion

The results underline the central role of **standard precautions** and cleaning to control transmission of VREfm in hospital settings.

Cleaning and room **disinfection** of the entire department probably played a decisive role in stopping the outbreak.

Further our results point to the relevance and need for audits and **dialogue** to ensure adherence to standard precautions in hospital wards.

