

MRSA in hospital intensive care -- what's growing where?

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Researchers are finding out which bugs grow in intensive care units to develop a novel sampling regime that would indicate the threat of MRSA and other superbugs in the environment, scientists heard today at the Society for General Microbiology's 162nd meeting being held this week at the Edinburgh International Conference Centre.

“We are developing a standard sampling regime to take swabs from sinks, taps, floors and other surfaces like computer keyboards, and use these to identify accurately which superbug genes are present in an intensive care unit,” says Gemma Kay from Sheffield Hallam University in South Yorkshire. “Critically ill patients in the intensive care unit are particularly at risk from hospital acquired infections.”

The university research team has been working with clinical collaborators at the Sheffield Teaching Hospitals Trust to develop infection control procedures which could protect vulnerable patients and help to manage any future superbug outbreaks.

“Our technique allows us to characterise the genes from micro-organisms using a gene amplification technique called polymerase chain reaction (PCR). This lets us expand tiny samples enough to identify individual strains of bacteria, and to spot particular antibiotic resistance genes,” says Gemma Kay.

“Our findings so far, from routine samples taken from the intensive care unit and patients screened over the last 12 months, show extremely low

levels of MRSA (methicillin resistant Staphylococcus aureus), known drug resistant bacteria such as Clostridium difficile and other strains of bacteria that can make extended spectrum beta lactamase, which are all resistant to antibiotics commonly used to treat infections,” says Gemma Kay.

Patients in intensive care units are particularly vulnerable to drug resistant infections, which can worsen their condition, prolong their stay and require heavy antibiotic regimes, diverting significant resources from the hospital budget. To date frequencies of resistant infections in the intensive care unit have been extremely low.

“By establishing which organisms and which drug resistance genes are circulating in the intensive care unit we will be able to see to what extent the environment is a potential infection threat to patients,” says Gemma Kay. “Our experience so far suggests very good infection control, but the final outcomes of the study may suggest further changes that could provide additional protection for patients.”

Source: Society for General Microbiology

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