Silver-coated endotracheal tube dramatically reduces resistant infections

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A silver-coated endotracheal tube may reduce infections with highly resistant bacteria over traditional tubes by nearly half, according to the results of a large randomized trial to be presented at the American Thoracic Society's 2008 International Conference in Toronto on Monday, May 19.

Patients who are on ventilators are often at risk for developing ventilator-associated pneumonia (VAP) because of resistant bacteria.

"VAP is a serious disease with significant mortality," said lead investigator, Andrew Shorr, M.D., M.P.H., of Washington Hospital Center in Washington, D.C. "Crude mortality rates from VAP approach 25 to 30 percent and VAP rates are now thought to reflect hospital quality. These infections include highly resistant pathogens, such as methicillin-resistant Staphylococcus aureus or MRSA, which are the most troubling ones and often the hardest to treat. The average costs associated with treatment of VAP exceed $40,000 because of the impact on length of stay in the ICU."

To test the efficacy of the silver-coated tube in preventing infections, the study included a modified intention-to-treat population of 1,509 subjects, balanced between traditional endotracheal tubes and the silver coated ones. The researchers used brochoavelolar lavage fluid cultures to ascertain the presence of pathogenic organisms and classified as "highly resistant" organisms MRSA, Pseudomonas aeruginosa (PA) and Acinetobacter bumanii (AB).

They found that VAP in all its forms was reduced by nearly 40 percent in the population with the silver-coated endotracheal tubes and that highly resistant infections were less than half as likely to occur in those with the silver-coated tubes.

“What we show in this present analysis is that the silver-coated breathing tube prevents infections due to the most highly resistant pathogens. Other prevention strategies for VAP have not always been shown to impact the rates of infection with these highly resistant strains,” said Dr. Shorr. “Given the importance of MRSA, PA and AB in the ICU, utilization of the silver-coated endotracheal tube may help contain the spread of antimicrobial resistance.”

Source: American Thoracic Society

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