

CLINICAL SUMMARY

Ventilator-associated pneumonia in the trauma ICU substantially increases hospital expenses, potentially costing a hospital more than \$82,000 per incidence

Cocanour CS, Ostrosky-Zeichner L, Peninger M, et al. Cost of a ventilator-associated pneumonia in a shock trauma intensive care unit. *Surg Infect (Larchmt)*. 2005;6(1):65-72.

Objective

Authors examined the cost of VAP in a shock trauma ICU, as nosocomial pneumonia, especially ventilator-associated pneumonia (VAP), is a costly complication for the hospitalized patient.

Methods

- Shock trauma intensive care unit patients and charts were reviewed concurrently by an infection control practitioner for development of a VAP as defined by the National Nosocomial Infection Surveillance (NNIS) guidelines
- All patients requiring >1 day of mechanical ventilation were evaluated
- 70 patients with VAP and 70 patients without VAP were matched according to age and Injury Severity Score

Results

- ICU cost difference was significant ($p < 0.05$) between the case-controlled patients with VAP (\$82,195) and those without VAP (\$25,037)
- There was a significant difference in ICU length of stay (21.6 vs. 6.4 days) and the number of ventilator days (17.7 versus 5.8 days), both $p < 0.05$
- A substantial portion of the increased cost of a VAP was from the increase in ICU length of stay
- Pharmacy, respiratory and “other” also accounted for the increases in cost
- What is less clear are the costs for additional operations that may result (i.e., decortication for empyema)

Conclusion

Whether the cost of a VAP should be considered in light of all cost differences between VAP and non-VAP patients, or if only a few of the costs should be included, an episode of VAP increases hospital cost substantially. Prevention of VAP must be foremost on the minds of all caregivers in the ICU, and include adequate allocation of hospital resources for infection control and prevention programs.



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