Reviewer's report

Title: Costs and risk factors for ventilator-associated pneumonia in a Turkish University Hospital's Intensive Care Unit: A case-control study

Version: 2 Date: 12 March 2004

Reviewer: Andrew Shorr

Reviewer's report:

General
The authors present a retrospective analysis of their ICUs experience with VAP. Their goal was to indentify risk factors for VAP as well as the attributable cost and mortality.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. Because of the writing style the manuscript is difficult to follow. I suggest that the authors have a medical writer with more experience with English review the manuscript for style and sentence structure. I do not want simple translation issues to take away from their message.
2. We need more info on how the controls were selected. The authors matched for age, etc. How much variability was allowed (+/- 3 yrs, etc). Also, there are 37 cases and 60 controls. Matching is generally 1:1 or 2:1. How did they settle on 1.6 to 1.
3. The authors state that clinical criteria were used to dx VAP but then describe invasive testing. No where in the results do they break out the number of patients who had micro confirmed VAP.
4. No data on organ failures is reported. Although APACHE II is a reasonable severity of illness score, it does not capture organ failure well which is an important confounder and predictor of outcome.
5. Head of the bed elevation is an independent risk factor for VAP but no data are presented on this issue.
6. The authors state appropriate abx tx was given. How did they asses adequacy of antibiotic therapy? This too is an indepenedent predictor of survival.
7. Were the strata of APACHE II scores used for comparisons predefined or selected post-hoc.
8. How were Turkish costs converted to US dollars? How were the initial costs derived anyway?
9. The statistics section is far to brief. What specific tests were done to compare variables (T tests, Wilcoxn rank sum, etc)? How did the authors choose what variable to put in their multivariate model?
10. No where in the tables do the authors report the incidence of mechanical ventilation among the controls. If the controls were not ventilated are they appropriate controls since they are not at risk for VAP by definition?
11. The authors discuss early onset pneumonia -- again no definition is given of this.
12. The results section is far too brief.
13. Data about VAP rates is presented in the discussion. This belongs in the results.
14. Moreover, rates of VAP should be converted to pt-days.
15. When was coma status determined?
16. What is the duration of ventilation before dx of VAP.
17. In the multivariate analysis LOS is reported as a risk factor -- does that odds ratio represent increased risk per day as a continuous or categorical variable?
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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes