

Early vs. late tracheotomy does not reduce mortality in ICU patients

May 18 2010

Early tracheotomy in ICU patients on mechanical ventilation (MV) did not reduce mortality when compared to later tracheotomy in a study of cardiac surgery patients requiring prolonged ventilation in a Paris study.

The findings will be reported at the ATS 2010 International Conference in New Orleans.

Early percutaneous tracheotomy (EPT) in patients requiring prolonged MV remains controversial, as recent studies suggested it might shorten MV duration and lower mortality, while others have not.

"Based on the results of our study, early tracheotomy provided no benefit in terms of MV duration, hospital length of stay, mortality or frequency of infectious complications compared to prolonged intubation possibly followed by late tracheotomy," said researcher Alain Combes, M.D., Ph.D., professor at the Université Pierre et Marie Curie in Paris.

The single-center study randomized 216 adults still requiring MV 4-7 days after cardiac surgery, and projected to remain so for at least seven days, to receive early percutaneous tracheotomy or prolonged intubation (PI) with possible tracheotomy if [mechanical ventilation](#) lasted more than 15 days.

Characteristics of the two groups were similar at randomization, although the ET group had more heart transplant patients (21 versus 7 percent) and more patients requiring renal replacement therapy (38

versus 16 percent.) At the end, the number of ventilator-free days was lower in the EPT group, but the difference did not reach statistical significance. However, EPT was associated with less intravenous sedation and analgesia, fewer unscheduled extubations and less reintubations, and with earlier bed-to-chair transfer and resumption of oral nutrition.

"We expected MV duration reduction because tracheotomy was previously shown to reduce sedative and analgesics consumption, which is clearly associated with reduced MV duration and sometimes even with reduced [mortality](#)," said Dr. Combes. "We hypothesized that EPT might reduce MV duration by 6 days, but the true effect of EPT, if it exists, might only be a reduction of 2-3 days, which is not sufficiently clinically relevant, and might require 10 times as many patients for a study to demonstrate a significant effect."

Dr. Combes did, however, note that tracheotomy is associated with very rare but potential adverse events, like every invasive procedure. "To avoid unnecessary tracheostomies, physicians might consider them only after 7-10 days of MV, when projected MV duration is longer than one week at that time point," he concluded.

Provided by American Thoracic Society

Citation: Early vs. late tracheotomy does not reduce mortality in ICU patients (2010, May 18) retrieved 25 April 2024 from

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