Review: subglottic secretion drainage reduces ventilator associated pneumonia


Does subglottic secretion drainage (SSD) prevent ventilator associated pneumonia (VAP) in critically ill patients?

**METHODS**

Data sources: Medline, CINAHL, EMBASE/Escritps Medica, Cochrane Library, Current Contents, and Biological Abstracts (1966 to May 2003); reference lists of retrieved studies and reviews; and authors of identified studies.

Study selection and assessment: randomised controlled trials (RCTs) that compared SSD with no SSD in mechanically ventilated patients and reported pneumonia as an outcome. Methodological quality of individual studies was assessed based on allocation concealment and blinding.

Outcomes: VAP. Secondary outcomes were mortality, intensive care unit (ICU) length of stay (LOS), hospital LOS, ventilation duration, and time from intubation to diagnosis of pneumonia.

**MAIN RESULTS**

5 RCTs (n = 896) met the selection criteria. SSD involved intermittent wall suction in 2 RCTs, continuous wall suction in 2 RCTs, and hourly syringe suction in 1 RCT. In 4 RCTs, patients were expected to be intubated for >72 hours. Patients who received SSD had reduced risk of VAP (table), required fewer days of mechanical ventilation (3 RCTs, n = 683),† weighted mean difference [WMD] −1.8 d, 95% CI −2.1 to −1.5), had a shorter ICU LOS (3 RCTs, n = 683),† WMD −1.4 d, CI −2.1 to −0.8), and developed pneumonia later (4 RCTs, n = 746),† WMD 3.1 d, CI 2.7 to 3.4) than patients who received standard endotracheal tube care. Groups did not differ for mortality (table) or hospital LOS (2 RCTs, n = 493),† WMD −1.4 d, CI −4.0 to 1.2).† A sensitivity analysis excluding 1 RCT in which patients could be ventilated <72 hours showed a similar reduction in VAP, but greater reductions in duration of mechanical ventilation (2 fewer d, CI 1.7 to 2.3) and ICU LOS (3 fewer d, CI 2.1 to 3.9), and prolonged time to development of pneumonia (7 d later, CI 5.5 to 8.1)."