Swallowing Evaluation Useful After Ventilation

BY KERRI WACHTER

PITTSBURGH — A simple bedside swallowing evaluation can be used to safely clear patients for oral food and drink after they have been on mechanical ventilation, and it can identify those who need additional evaluation, based on results of a prospective study of almost 300 trauma patients.

The five-step evaluation consists of the following criteria: mental status (alert or not alert), presence or absence of facial symmetry, testing for the swallowing reflex, a trial of ice chips, and a trial sip of water.

A total of 291 adult trauma patients who required intubation and mechanical ventilation were enrolled in the study between January and December 2008 at a level I trauma center. Each patient was assessed at bedside within 48 hours of separation from the ventilator, said Dr. Carlos Brown, a surgeon at the University Medical Center Brackenridge in Austin, Tex.

Patients had to meet all five requirements to pass the bedside swallowing evaluation, which led to diet advance per physician order. A patient who failed any one component remained NPO (nothing by mouth), and a repeat evaluation was performed within 48 hours. For example, a patient who could not initiate swallowing within 10 seconds after the therapist pressed gently on the anterior larynx would fail the swallowing reflex test. Three failures would result in a barium swallow test for additional evaluation, Dr. Brown said at the annual meeting of the American Association for the Surgery of Trauma.

The evaluation is was based on the Massey bedside swallowing screen used in stroke patients (J. Neurosci. Nurs. 2002;34:252-3;257-60).

The mean patient age was 38 years. The group was largely male (78%), and almost all (86%) had blunt trauma. Most of the patients (80%) were intubated because of a neurologic problem. In all, 76% were extubated and 24% had received a tracheostomy. At the first evaluation, about half (49%) passed. All patients who passed the bedside swallowing evaluation were discharged from the hospital without any aspiration events.

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The researchers identified the following independent risk factors for failing the bedside swallowing evaluation: tracheostomy (21-fold increased risk), age greater than 70 years (12-fold increased risk), and ventilation longer than 72 hours (8-fold increased risk).

The failures that occurred in 148 patients were associated with mental status (24% of patients), lack of facial symmetry (2%), absence of a swallowing reflex (64%), and inability to swallow ice chips or a sip of water without obvious aspiration (8%).

Patients who failed the evaluation were older, had a lower Glasgow Coma Scale score upon admission, and had a higher Injury Severity Score—29 vs. 18 in those who passed. Brain injury, thoracic injuries, and spine and/or skull fractures were more prevalent in the failure group, but they had fewer abdominal injuries than did their counterparts. The failure group also had more craniotomies (28% vs. 8%) and more tracheostomies (45% vs. 1%).

The failure group was ventilated longer—14 days vs. 5 days. Just 23% of patients intubated for less than 72 hours failed the bedside evaluation, whereas almost 78% of those intubated for at least 72 hours failed. In addition, those who failed had more pulmonary infections during ventilation (41% vs. 8%), delirium tremens (13% vs. 3%), and cardiovascular failure (7% vs. 1%). ICU length of stay also was longer for those in the failure group (13 days vs. 4 days) as was hospital length of stay (24 days vs. 9 days). ■

Disclosures: *Dr. Brown reported that he has no relevant financial relationships.*