Use of the Oral Secretion Scale for Predicting Tolerance of Noninvasive Ventilation, Survival, and When to Initiate Hospice

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BACKGROUND

Noninvasive ventilation (NIV) can be tolerated in patients with ALS/MND unless oral secretions become severe due to bulbar impairment.

METHODS

A validated Oral Secretion Scale (OSS) was developed to measure oral secretions in correlation with the ability to swallow saliva and clear the upper airway.

OSS score of 4 = normal (automatic swallow);

OSS score of 3 = infrequent secretions (automatic swallow decreased);

OSS score of 2 = occasional drooling and/or pooling (conscious swallow required);

OSS score of 1 = severe, frequent drooling/ pooling (conscious swallow difficult);

OSS score of 0 = most severe, constant drooling/pooling (conscious swallow impossible).

A total of 137 subjects were followed up prospectively during ongoing patient visits from NIV initiation until death or tracheostomy.

RESULTS

Survival was significantly (P<.001) longer with an OSS score of 4 than an OSS score of 1 at NIV initiation; and significantly (P<.001) longer when NIV used 24 h/d than <24 h/d. In the subjects unable to tolerate NIV, ≥ 80% had OSS score of 1 or 0. Univariate and multivariate analyses hazard ratio showed hours per day of NIV use was significant factor associated with survival.

CONCLUSIONS

The subjects with an OSS score of 4 tolerated NIV and survived significantly longer than subjects with an OSS score of <4. An OSS score of 1 signaled NIV intolerance and the need for hospice.

Tolerance of NIV is defined as the ability and willingness to use NIV for as long as necessary, whether continuously or intermittently to main adequate ventilation.

CLINICAL OUTCOMES

- Survival correlates with NIV tolerance and the hours per day that NIV is used.
- Patients with an OSS score of 4 can survive significantly longer than patients who are an OSS score of <4.
- An OSS score of 1 reliably signals NIV intolerance and when to initiate hospice;
- An OSS score of 1 indicates when mechanical insufflation-exsufflation for bronchial clearance can no longer be tolerated;
- Nonbulbar NIV users who are an OSS score of 4 can maintain upper airway clearance and do not need a tracheostomy.

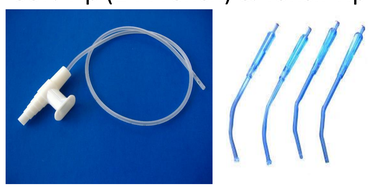
BENEFITS OF OROPHARYNGEAL SUCTIONING

- Clear the upper airway to achieve & maintain adequate ventilation;
- Alleviate respiratory distress and promote breathing comfort;
- Improve NIV tolerance;
- Minimize the risk of aspiration;

EVIDENCE-BASED CATHETER SELECTION FOR OROPHARYNGEAL SUCTIONING

- A soft-tip, flexible catheter with a narrow lumen (size 14 French) clears secretions from the back of the throat more adequately than using a hard-tip, nonflexible, plastic catheter with a large lumen and bulb tip (Yankauer or "tonsil-tip" catheter) because the narrow lumen catheter produces a higher velocity of suction to clear oropharyngeal secretions.
- The soft-tip, flexible catheter reaches the back of the throat more closely.
- A hard-bulb tip, nonflexible catheter with large lumen is indicated for clearing secretions from the mouth.

SUCTION CATHETERS
Soft Tip (14 French) & Tonsil Tip



RECOMMENDATIONS

The Oral Secretion Scale can be used in any clinical setting without testing materials by minimally trained healthcare providers and family caregivers. Clinicians may also assess oral secretions during phone interviews. To read the **full text, go to the Respiratory Care journal website at *rc.rcjournal.com.***

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