Evaluation of Salivary Aspiration in Brain–Injured Patients With Tracheostomy

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Objective

- To determine the useful tool for evaluating salivary aspiration in brain-injured patients with tracheostomy
Radionuclide salivagram and laryngoscopy was done in 27 brain-injured patients with tracheostomy. During salivagram, $^{99m}$Tc sulfur colloid was placed sublingually in the supine position, and 50-minute dynamic images and 2-hour delayed images were obtained. Salivary aspiration was detected when the tracer was entered into the major airways or lung parenchyma. Laryngoscopy was done by otolaryngologists, and saliva aspiration, saliva pooling, and vocal cord palsy were evaluated. Videofluoroscopic swallowing study was done in patients who were able to undergo the test.
The detection rate of salivary aspiration was 44.4% with salivagram, and 29.6% with laryngoscopy. The correlation of the two tests was 70.4%. Of the laryngoscopy findings, salivary pooling had significant correlation with positive salivagram results (p=0.04). Frequent need of suction correlated with salivary aspiration in both salivagram (p=0.01) and laryngoscopy (p=0.01). Patients with negative results in salivagram or laryngoscopy had higher rates of progressing to oral feeding or tapering tracheostomy. Two patients developed aspiration pneumonia, and both patients only showed aspiration in salivagram
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