

Electrical Stimulation of Post-Irradiated Head and Neck SCCA

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Abstract

Objective/Hypothesis: We noted a significant improvement in complaints of dysphagia in patients with head and neck cancer who had received noninvasive neuromuscular electrical stimulation (E-stim) of their pharyngeal muscles. We wanted to determine if the improvement in dysphagia was associated with decreased complaints of xerostomia, as one of the first patients being treated with E-stim noticed a significant improvement in xerostomia.

Study Design: Retrospective review of dysphagia questionnaires instituted by our speech pathologists on head and neck cancer patients that had received radiotherapy and had undergone E-stim for dysphagia.

Methods: Prior to the initiation of E-stim and 1-2 months after E-stim, patients were asked to answer a Dysphagia and Xerostomia Index questionnaire. All patients received E-stim 2-4 months after completing XRT. Patients received three E-stim treatments per week for a total of 1-2 months. Four electrodes were placed along anterior neck over pharyngeal muscles. E-stim was initiated using 4-30mA at 80-100 pulse-widths.

Results: 12 patients that received either post-operative radiation therapy or concomitant chemoradiotherapy had been treated with E-stim. All 12 patients noticed a significant improvement in dysphagia. 8/12 patients noticed a definite increase in saliva production with symptoms of less intake of water with meals, sleeping longer hours at night, and increased moistness of lips.

Conclusions: E-stim therapy appears to be an effective and approved treatment for dysphagia. Our study shows that it may also be an alternative treatment for xerostomia in the post-irradiated head and neck cancer patients.