

values for pH and volume. Other independent variables were gender and age. Significance level was established at 5%.

**RESULTS:** A statistically significant difference was found in salivary pH before and after treatment with increase of pH values after control of the disease ( $p < 0.05$ ). Salivary volume did not change significantly after treatment. Eighty-seven percent of patients with acid saliva before treatment were found to have neutral or alkaline saliva (physiological) after treatment.

**CONCLUSIONS:** Salivary pH is influenced by LPR. After treatment and control of LPR, salivary pH returns to physiological conditions.

08:44 AM

### **Minimal Access Gore-Tex Thyroplasty**

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**OBJECTIVE:** 1. Explore an alternative approach for Gore-Tex thyroplasty. 2. Assess voice outcome in patients undergoing inferior thyroid border approach (ITBA) Gore-Tex Thyroplasty.

**METHODS:** Patients presenting with vocal fold paralysis were managed by ITBA Gore-Tex Thyroplasty in the Department of Otolaryngology—Head and Neck Surgery Manukau Surgery Centre, Auckland, NZ, between Dec 2004–Dec 2005. Patients had stroboscopic examination, voice analysis, and Glasgow Benefit Inventory scores noted before and after thyroplasty. Duration of the operation was noted. The data was analysed by SSPS. The data was compared with Window Technique Gore-Tex Thyroplasty procedures of this and other international centers.

**RESULTS:** Seventeen patients aged 15–80 years, median age 60 with 80% having a left vocal fold paralysis. Cancer was the commonest (54%) cause for the nerve palsy. Duration of the operation by ITBA-Gore-Tex Thyroplasty was markedly reduced with a median time of 30 minutes. Voice outcome of these patients was similar to both our Window technique results and to the results by other centers using Gore-Tex or Montgomery implants by Window techniques. Maximum phonation time and average fundamental frequency was significantly improved. The specific GBI scale was high after ITBA despite deteriorating physical health because of terminal cancer in many patients. Complications included Gore-Tex extrusion (1) and need for revision ITBA thyroplasty (1).

**CONCLUSIONS:** ITBA Gore-Tex Thyroplasty is an excellent alternative requiring minimal dissection. Voice outcomes are as good with this technique as with other methods that need more dissection and more operating time. Patient-rated voice outcome was very good.

08:54 AM

### **Treatment of Subglottic and Tracheal Stenoses**

Heinrich Iro, MD (presenter); Johannes Zenk, MD;

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**OBJECTIVE:** Treatment of subglottic stenoses is a great challenge. Either cricotracheal resection or translaryngeal techniques are available as surgical procedures. Segmental tracheal resection is considered to be the standard treatment of tracheal stenoses. In this huge clinical study the presenters evaluated the outcome of different techniques to (1) outline their advantages and disadvantages, and (2) review the indications.

**METHODS:** In a retrospective clinical trial from 1980–2002 the data of 163 patients (age: 3y - 78y) with the diagnosis of either laryngeal, tracheal, or combined stenoses, who received primary surgical interventions in the department, were collected.

**RESULTS:** One hundred seventeen patients received segmental tracheal resections; sufficient data were available in 101 cases. Of these, 93% had a large and stable tracheal lumen after surgery, in 4% a mild and asymptomatic restenosis was detected, and 3% had to undergo revision surgery because of a restenosis causing dyspnea at rest. Thirty-seven patients with isolated subglottic stenoses were operated on by a translaryngeal technique according to Rethi. In 89% a sufficient airway was reconstructed. Revision surgery was necessary in 5 patients; 19 cases with subglottic or combined stenoses underwent cricotracheal resection with a success rate of 90%.

**CONCLUSIONS:** Our results demonstrate that reconstructive surgery of larynx and trachea is very successful even in severe laryngeal, tracheal, or combined stenoses. Preoperative evaluation of the location and length of the stenosis is the most decisive step for a successful surgical treatment.

09:02 AM

### **Photodynamic Treatment of Laryngeal Leukoplakia with ALA**

Ramon A Franco, Jr, MD (presenter)

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**OBJECTIVE:** To evaluate whether photodynamic therapy (PDT) can heighten the therapeutic effects of the 585nm Pulsed Dye Laser (PDL) in the treatment of laryngeal leukoplakia.

**METHODS:** A four-year prospective study was performed in 12 male patients with recalcitrant leukoplakia treated with the 585nm PDL and topical 20% Aminolevulinic Acid (ALA). Thirty-three separate procedures were performed using the PDL, 20 of which involved the use of ALA. Six patients underwent 18 procedures prior to enrollment in this study to treat their leukoplakia. One patient was lost to follow-up and another two were diagnosed with laryngeal cancer during the study reducing the number of subjects to nine.

**RESULTS:** All patients responded favorably to the ALA-PDL photodynamic therapy without systemic side effects. There was a 90% reduction (range 80–100% reduction) in the total amount of leukoplakia as determined by the authors through visual analysis of the outpatient laryngeal examination photos. Follow-up ranged between 12 mo and 41 mo. Many of these procedures were performed awake in the outpatient setting.

**CONCLUSIONS:** It is possible to effectively treat recalcitrant laryngeal leukoplakia with photodynamic therapy using topical