INTRODUCTION

Objectives: Historically, total laryngectomy has been the primary means of surgically managing laryngeal cancer. However, this procedure is associated with significant limitations such as creation of a permanent stoma, loss of natural voice, and swallowing difficulties. As an alternative, supracricoid partial laryngectomy (SCPL) was used for select patients with T2, T3, and T4 supraglottic and glottic carcinomas. This procedure avoids the creation of a tracheostoma via preservation of the hypopharynx, base of tongue, and at least one functional arytenoid. We report the preliminary results of 18 patients undergoing SCPL, focusing on the primary outcomes of voice function, swallow function, and overall quality of life.

METHODS AND MATERIALS

Operative records of the senior author (JSS) were queried for patients who underwent SCPL between January 2006 and March 2011. 18 patients were identified who had SCPL during this time. Operative data, as well as voice, swallowing, and functional outcomes, were collected and retrospectively reviewed. All patients had histologically confirmed squamous cell carcinoma of the supraglottic or glottic larynx.

RESULTS

Eighteen total patient were included in this study (Table 1). Mean follow up was 607 days after surgery (range 95-1633 days). All patients had histologically confirmed squamous cell carcinoma; two patients had aggressive supraglottic variants (patients 12 and 16). Four patients were previously irradiated (patients 1, 2, 4, and 6). Pre-operative somatosensory evoked potentials (SSEPs) were performed using anterior (n=13) or posterior (n=5) foramina. Reconstructive techniques included 4/11 (36%) patients undergoing a cricohyoidoepiglottopexy (CHEP), 5/11 (45.5%) undergoing a tracheoesophageal fistula (TEF), and 2/11 (18.2%) undergoing a mucosal flap. Tumor stage was rT3 N0 M0 for 3/11 (27%) patients, rT2 N0 M0 for 4/11 (36%) patients, rT2 N1 M0 for 1/11 (9%) patients, and rT3 N0 M0 for 2/11 (18.2%) patients. All patients had an endoscopic examination pre-operatively performed with appropriate airway and laryngeal exam. The majority of patients underwent a pleurostomy (16/18, 88.9%) and an endotracheal tube (15/18, 83.3%). Post-operative complications were recorded and included 1.83 % post-operative pulmonary complications, 1.83 % post-operative GI complications, and 2.78 % post-operative neurologic complications.

CONCLUSIONS

Although SCPL results in voice and swallow mechanisms that are limited compared to normal, it provides an alternative approach to earlier surgical salvage options when oncologic control is the goal. As a result, SCPL may be considered for patients with limited number of patients and retrospective nature of data collection. While many other voice and swallow outcome measures were collected, only the Dysphonia Index and Strain index were utilized for analysis. These shortcomings could be addressed via a prospective study of patients following SCPL.