INTRODUCTION

Pharyngocutaneous fistula is one of the most common complications following total laryngectomy with reported incidence anywhere from 3 to 65%. Its morbidity consists of possible injury to the great vessels of the neck but also causes decreased quality of life. Patients are forced to delay oral feeding, radiation or chemotherapy induction, and have increased expense because of repeat procedures.

The salivary bypass tube (SBT) is commonly used in these cases to manage pharyngocutaneous fistulae as well as hypopharyngeal stenosis or tracheoesophageal fistulae. Multiple insertion techniques have been described under both local and general anesthesia. However, there have been few methods for in-clinic or bedside removal described in the literature. Most commonly, the salivary bypass tube is affixed with a suture to the end of the tube that the patient must wear secured to a location in the oral cavity, nose, or on the face. This can be distressing for the patient because of nasal discomfort and erosion of the nasal mucosa. Additionally, these sutures may dislodge or can tear through the SBT. Alternatively, the patient can be taken to the operating suite to have it removed.

METHODS/TECHNIQUE

Patients who had undergone laryngectomy/laryngopharyngectomy with subsequent development of pharyngocutaneous fistula and intraoperative placement of a salivary bypass tube were included in this series. The tubes were removed at the bedside or in clinic utilizing a Fogarty-type method over a Foley catheter. All three patients required only topical anesthetic and tolerated the procedure with minimal discomfort.

RESULTS

Three patients underwent removal of hypopharyngeal salivary bypass tubes 1 to 2 weeks after placement. Inflation of the Foley catheter within the lumen of the salivary bypass tube facilitated successful removal without the need for additional procedures. All patients tolerated this technique and were discharged home on the same day.

CONCLUSIONS

Compared to current methods, this technique is cost-effective and time-efficient while not compromising patient safety or comfort.

Objective: To describe a novel method for the removal of the salivary bypass tube (SBT) that precludes the need for extraction under general anesthesia.

Study Design: Retrospective case series.

Methods/Technique: Patients who had undergone laryngectomy/laryngopharyngectomy with subsequent development of pharyngocutaneous fistula and intraoperative placement of a salivary bypass tube were included in this series. The tubes were removed at the bedside or in clinic utilizing a Fogarty-type method over a Foley catheter.

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Key Words: Head, neck.

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How I Do It

Method for Removing Hypopharyngeal Salivary Bypass Tubes

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RESULTS

Three patients underwent salivary bypass tube removal using this technique. The transnasal technique was performed in one patient who had a large tongue base and who did not tolerate transoral placement of the Foley catheter. A chest X-ray had been performed prior to removal in order to assess the location of the salivary bypass tube as it was not initially visualized on inspection. The tube was removed easily and with minimal patient discomfort. The other two patients had their tubes removed via a transoral technique.

All of the patients tolerated the procedure well and the task was easily performed by a junior level resident. The patients were able to go home the same day of the procedure and had no long-term effects from the procedure or the anesthetic. On average, the salivary bypass tube had been in place for 1 to 2 weeks.

CONCLUSIONS

Salivary bypass tubes are efficacious in the management of pharyngocutaneous fistulae. They were first introduced in 1978 by Montgomery and are constructed of soft and flexible medical grade silicon and available in several sizes.\(^3,4\) Shaped like a funnel, they allow for the passage of saliva and mucus from the hypopharynx into the esophagus thereby minimizing cervical extravasation of pharyngeal secretions. Salivary bypass tubes are intended to prevent saliva from bathing the cervical tissues with salivary proteinases that impede closure of the fistula and potentially digest the adventitia of the great vessels of the neck.

Tapia et al.\(^3\) describe an insertion technique utilizing a Seldinger technique in a clinical setting. The technique we have described here utilizes a similar approach. In this limited series we were able to avoid additional procedures under general anesthesia which is a highly inefficient use of operating room resources. Importantly, one of these patients had significant pulmonary comorbidities, which would have added a further general anesthetic risk and potential perioperative pulmonary complications.

Potential complications of this technique include patient discomfort including pain and gag reflex during tube removal. Overinflation of the balloon with resultant damage to the neopharynx is a potential risk—however, this can be avoided with judicious insufflation of saline within the Foley balloon. As all three of these patients had undergone laryngectomy or laryngopharyngectomy, there was no significant airway risk.

In conclusion, this technique offers cost-effectiveness as it does not utilize operating room resources or equipment and minimizes risk to the patient. Furthermore, it is expedient, as patients can have the salivary bypass removed in clinic or at the bedside prior to discharge.

BIBLIOGRAPHY