ABSTRACT

Background: Endolaryngeal surgery for benign lesions at the anterior commissure is performed cautiously due to the risk of acquired glottic webs. Mitomycin – C (MMC) has been used to prevent web formation in select areas of the body such as the anterior glottis but has had limited but encouraging results. Objectives: To review the efficacy of mitomycin-C in the treatment of preexisting anterior glottic web and other endolaryngeal indications. Methods: Fifty-two patients over 18 years of age undergoing endolaryngeal surgery at the Anterior Glottic Web (AGW) study by two surgeons between 2004 and 2007 were included. All patients had a known history of connective tissue disease (CTD), Wegener’s disease, sarcoidosis, or human immunodeficiency virus (HIV). A total of twenty five patients were identified including eighteen male and nine female patients. Six patients were successfully treated with mitomycin C and did not experience resolution of their AGW, whereas three developed new AGW formation post MMC application. We evaluated the efficacy of topical mitomycin C in preventing web formation at the anterior glottis. All patients had a known history of connective tissue disease, Wegener’s disease, sarcoidosis, or HIV. We recognize inherent limitations to this study. Firstly the retrospective nature of the review limited more sensitive assessment of web size. Many of the patients also received concurrent or metachronous cidofovir injections, the impact of which is unclear.

RESULTS

A total of twenty five patients were identified including eighteen male and nine female patients. Six patients were successfully treated with mitomycin-C after prior endolaryngeal surgery at the anterior commissure. The remaining nineteen patients underwent mitomycin-C treatment for recurrent respiratory papillomatosis or a persistent anterior glottic web. The majority of these patients were successfully treated with mitomycin-C without developing a web. 84% demonstrated resolution of the AGW. Conversely three patients developed new AGW formation post MMC application to the anterior commissure and were web free at the last clinic visit.

Conclusions: Topical application of mitomycin C is effective in treating anterior glottic webs in more than 80% of patients. Topical mitomycin-C use in surgery of the anterior commissure offers a safe and effective treatment option for AGW.

INTRODUCTION

Objectives: To review the efficacy of mitomycin-C in the treatment of anterior glottic web and other endolaryngeal indications.

METHODS AND MATERIALS

This study was approved by the Thomas Jefferson University IRB study number 09D.499. A total of twenty five patients were identified including eighteen male and nine female patients. Six patients were successfully treated with mitomycin C without developing a web, whereas three developed new AGW formation post MMC application. We evaluated the efficacy of topical mitomycin C in preventing web formation at the anterior glottis. All patients had a known history of connective tissue disease, Wegener’s disease, sarcoidosis, or HIV. We recognize inherent limitations to this study. Firstly the retrospective nature of the review limited more sensitive assessment of web size. Many of the patients also received concurrent or metachronous cidofovir injections, the impact of which is unclear.

Table 1. Demographic and clinical data on 19 patients who manifested AGW during treatment with MMC.

- MMC is effective in treating anterior glottic webs in more than 80% of patients.
- More than half of patients that demonstrated a resolution of AGW following MMC did so after a single treatment.
- MMC allows for more aggressive surgery at the anterior commissure.
- MMC results in less mortality and faster recovery than traditional laser procedures.

REFERENCES

5. Monnier, P., George, M., Monod, M.-L., Lang, F. The role of the CO2 laser in the management of laryngotracheal stenosis: A su rvey of 100 cases. 2005 European Archives of Oto-Rhino-Laryngology 262 (8), pp. 602-608

Figure 1. Preoperative glottic view with secondary to previous papilloma excision. a) Endolaryngeal surgery at the anterior commissure. b) Application of mitomycin-C. c) Posttreatment appearance of anterior commissure.

Figure 2. Clinical response to MMC therapy in 19 patients that developed AGW. All 3 patients who developed new anterior glottic web following therapy demonstrated complete resolution of AGW and were web free at the last clinic visit.