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Case Report

Interesting Case of Late Gore-Tex Extrusion Following Medialization Laryngoplasty

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A 65-year-old female presented with a foreign body sensation following an asthmatic attack associated with severe coughing. Six years earlier, the patient underwent medialization laryngoplasty (ML), which was complicated by a small tear (2 mm) in the right ventricle. One year following this, the patient developed Gore-Tex extrusion but elected only for partial removal. Healing was complete until 5 years later; on examination, the patient had evidence of Gore-Tex extrusion through the right ventricle. Implant extrusion is a recognized complication of ML. This case demonstrates several important surgical steps that can benefit otolaryngologists at all stages of their surgical career.

Key Words: Extrusion, Gore-Tex, medialization laryngoplasty.

INTRODUCTION

Gore-Tex is a commonly used implant for vocal cord medialization laryngoplasty (ML). Extrusion of the implant is a recognized complication of the procedure that can occur either medially into the endolarynx or, rarely, laterally out of the paraglottic space. We present a case and the surrounding literature review of a late implant extrusion, as well as the lessons learned for avoiding such a complication.

CASE REPORT

A 65-year-old female presented to the office with a persistent foreign body sensation following an asthmatic attack associated with severe coughing. The patient had had a significant surgical history of having had a right ML 6 years prior. This was complicated at the time by a small tear measuring 2 mm in the right ventricle; however, given the minimal size of the defect, the decision was made to proceed with Gore-Tex implantation. The year following this initial procedure, the patient developed endolaryngeal Gore-Tex extrusion and granuloma formation at the site of the previous iatrogenic injury. At this time, two surgical options were offered to the patient: the first was to completely remove the implant and do a re-implantation at a later date; and the second was to partially remove the Gore-Tex in order to maintain quality of voice but with the knowledge that further extrusion may occur. The patient elected for the second option, and healing was complete with no ongoing issues. Five years later, the patient presented following an asthmatic attack with severe coughing and had evidence of further Gore-Tex extrusion through the right ventricle, sitting above the laryngeal introitus (see Fig. 1). Attempts to remove this in the office were unsuccessful; thus, the patient had definitive removal of the implant via microlaryngoscopy in the operating room (see Fig. 2). Postoperatively, despite the patient’s complicated course, the patient’s voice remains largely unchanged and the right vocal cord remains medialized with adequate glottal closure (see Figs. 3A and 3B).

DISCUSSION

Gore-Tex is a commonly used implant for medialization laryngoplasty. Over time, the use of the material has become more prevalent, with an increase from 36% to 64% over a 12-year period noted in a national survey study. Conversely, the use of sialastics has decreased over the same period from 76% to 24%. Extrusion rates for both materials are reported between 0.8% and 9.8% with either medial extrusion, which is more common, or with lateral extrusion occurring. Generally, this complication is an early event, occurring anywhere between 1 week postoperatively to 12 months subsequently.

Reasons for extrusion are thought to be due to suboptimal prosthesis placement resulting in implant shift, inability to secure

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were the iatrogenic injury at the time of the initial surgery and the additional trauma of the severe coughing; thus, there are a number of pertinent learning points from which other otolaryngologists in all stages of their career could benefit. Firstly, implantation should not proceed if there is a defect in the endolaryngeal mucosa, no matter its size. Even if not immediately visible, an iatrogenic tear should always be checked for by having the patient perform a Valsalva maneuver and by looking for air-bubble escape from mucosal surfaces. In this case, it was believed that 2 mm was an insignificant defect; however, this ultimately proved not to be the correct assumption. Secondly, if there still is an urgent clinical need to proceed despite a small defect, such as in the patient who requires a ML to avoid aspiration following a failed injection augmentation, the defect should be repaired using surrounding mucosa and/or AlloDerm (LifeCell Corporation, Branchburg, NJ) and then should be reinforced with perichondrium. In our case, having done this may have once again avoided the primary and secondary extrusion events. Finally, if extrusion does ultimately occur, the full implant should be removed with absolutely no residual remaining because there is a possibility that the vocal cord may remain medialized due to residual scar within the paraglottic space. Although this was the case in our patient after two extrusion events, it has been reported in others after a single extrusion event with no further revision surgery required.

**CONCLUSION**

We present an unusual case of late extrusion of a Gore-Tex implant following medialization laryngoplasty. Ultimately, this report underscores the importance of aborting the procedure in the event of penetration into the endolaryngeal mucosa.

**BIBLIOGRAPHY**


