DEVICE FAILURE DURING INJECTION MEDIALIZATION LARYNGOPLASTY

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Introduction

Injection medialization laryngoplasty is a commonly performed procedure for the management of glottic insufficiency.[1]

Among complications of this procedure is device failure, for which the literature is scarce.

Our goal was to determine the prevalence of needle failure during injection laryngoplasty among members of the American Bronchoesophagological Association (ABEA).

Methods and Materials

A questionnaire (Figure 1) was designed and subsequently sent to members of ABEA via electronic mail. Responses were analyzed using descriptive statistics.

Results

24 members (6.7%) completed the survey

83% reported experience with needle failure (Figure 2)
- 59% needle clogging
- 22% needle twisting
- 19% needle tip fracture.

54% of respondents reported needle failure during a percutaneous approach (Figure 3)

48% reported using calcium hydroxyapatite during device failure (Figure 4)

20% reported having to abort the procedure due to device failure.

25% of respondents experienced needle tip fracture that led to an airway or esophageal foreign body.

Figure 1 : Survey Questions

1. In what setting do you perform injection medialization laryngoplasty?
2. How often have you experienced injection needle failure requiring a second needle or aborting the procedure altogether?
3. How did the needle fail?
4. In instance(s) of injection needle failure, what was/were the injection method(s) used? (choose all that apply)
5. Which injection filler material was used during injection needle failure?
6. After injection needle failure(s) how often was/were the procedure aborted?
7. In instances where the injection needle BROKE OFF, what was/were the injection method(s) used?
8. If needle BROKE OFF during injection, how was the patient managed post procedure?
9. How many injection laryngoplasties do you perform per year?
10. Have you completed a fellowship?

Figure 2: Frequency of device failure

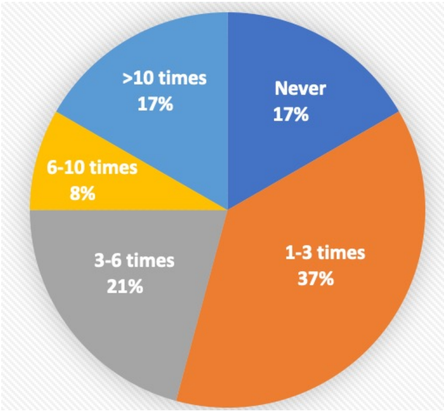


Figure 3: Method being used during device failure

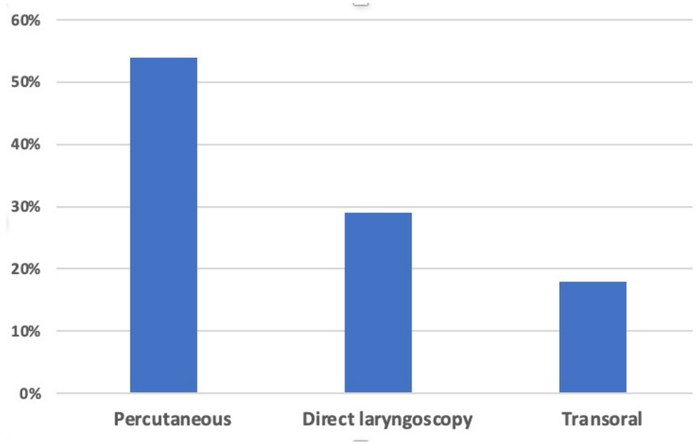
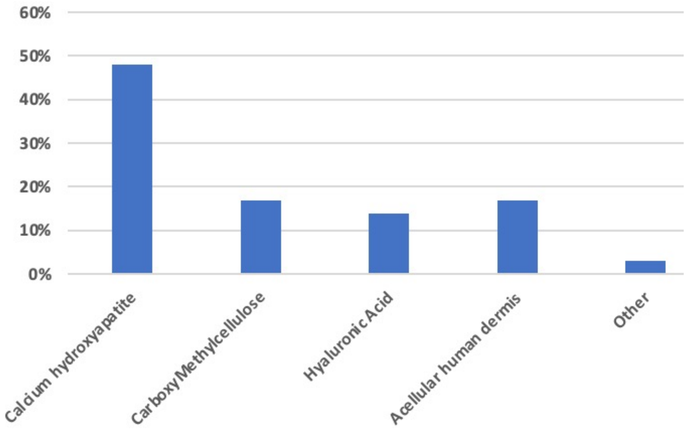


Figure 4: Material being used during device failure



Discussion

Needle failure during injection laryngoplasty was reported by most respondents.

Most commonly this was due to clogging or twisting which was managed by replacing the needle

25% of cases was due to a broken tip that results in an aerodigestive tract foreign body and aborting of the procedure in most cases.

Conclusions

Device failure including needle clogging, needle tip twisting and fracture during injection medialization laryngoplasty occurred commonly among our respondents.

Most commonly occurred while using the percutaneous approach and with CAHA.

An understanding of appropriate management is critical particularly for needle fractures that result in an aerodigestive tract foreign body requiring prompt attention.

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