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SHORT COMMUNICATION

Elasticated retractors in tracheostomy

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Abstract

We present a novel way of providing and improving retraction whilst performing tracheostomies, using elasticated retractors. The benefits of this method include an improved surgical field and the facility for use by a single surgeon. This type of retraction could potentially be used in a variety of other head and neck procedures.

Key words: Tracheostomy; Operative Procedures

Introduction

Retraction and counter-traction are an integral part of head and neck surgical procedures. A recent development has been the introduction of elasticated retractors. Such retractors may be used in a limited range of procedures in ENT, maxillo-facial, hand, gynaecological and trans-anal surgery.[1–5] Here, we present a novel indication for these retractors during the performance of tracheostomy. Whereas these retractors are normally used only to provide skin retraction, our technique demonstrates their application and use on both skin and deeper tissues.

Materials and methods

After the initial skin incision is made, the elastic retractors are positioned, two in each lateral aspect of the incision. With the retractors secured in the skin edges, they are stretched and fixed to the surrounding surgical drapes using surgical clips. We have found the contours of the neck, shoulders and chest to be useful in providing suitable attachment points. The weight of the surgical clips serves to maintain the position of the retractor secured to the surgical drapes; in our experience, both cotton and paper drapes can be utilised. The resulting retraction separates the skin edges and provides eversion, which acts to elevate the tissues between the divided skin edges. As dissection proceeds through subcutaneous fat, platysma and anterior neck fascia, the retractors are readjusted to the deeper tissues in a dynamic process, so that with each adjustment of the retractors the deeper tissues are brought up into the surgical field. When the strap muscles are identified and separated in the midline, the retractors are repositioned onto the medial borders of the muscles, providing a clear view of the thyroid isthmus (Figure 1). When the thyroid isthmus itself is divided, the retractors are repositioned a final time onto the separate lobes of the thyroid gland (Figure 2). This provides easy and constant access to the anterior trachea while performing the final stages of the tracheostomy. Once the tracheostomy is secured in the airway, the retractors are removed.

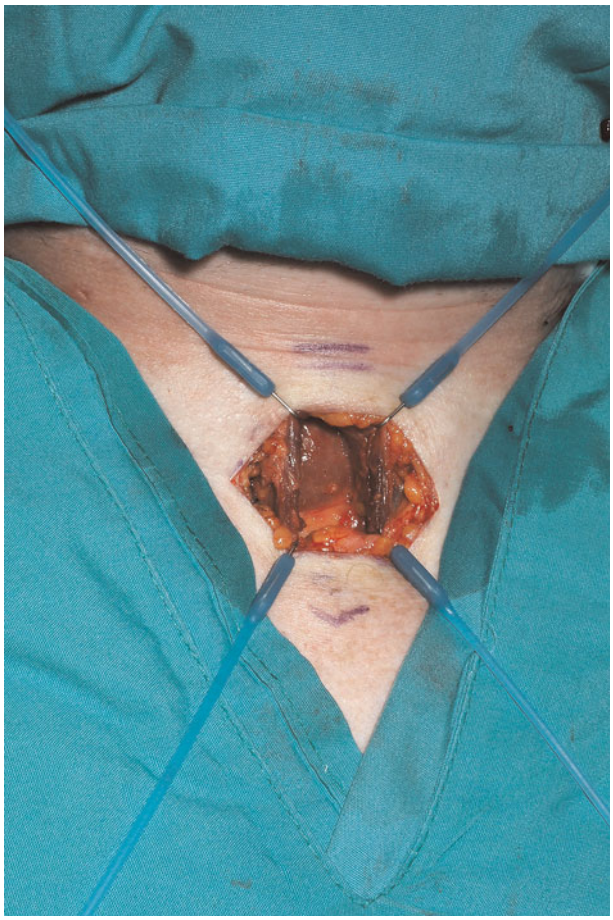

FIG. 1

Surgical photograph showing retraction of the strap muscles to expose the thyroid isthmus.

We have utilised this method in 15 cases performed over a number of months, with adaptations, and have experienced no complications due to the different retraction technique.

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FIG. 2
Surgical photograph showing retraction of the thyroid lobes, after division of the isthmus, to expose the trachea.

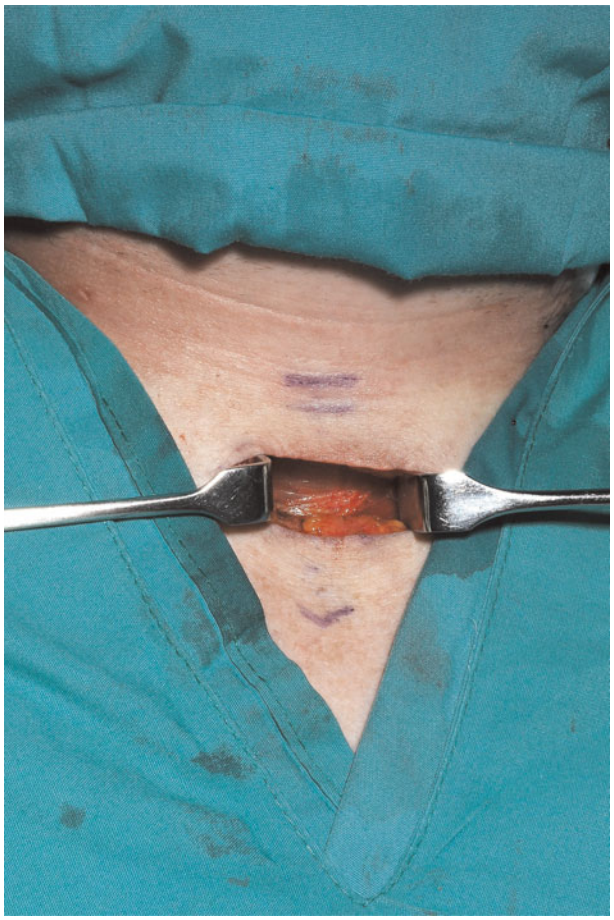

FIG. 3
Surgical photograph showing the surgical view with traditional retraction.

A short video of this retraction method is available on *The Journal of Laryngology & Otology* website (see Appendix 1).

Discussion

There are several benefits of this method. It provides four points of constant retraction that can be easily adjusted by the surgeon, as opposed to the two points provided by traditional retraction (Figure 3). As there is no requirement for an assistant to provide retraction, this technique allows the procedure to be undertaken safely by a single operator; if an assistant is available, they can provide laryngeal elevation to expose a deeply placed trachea, assist with haemostasis and suctioning, or receive instruction on how to perform the procedure unencumbered by retraction duties. The technique elevates the deeper tissues, improving surgical exposure and preventing the need to work in an ever-deepening and narrowing surgical field. Our experience of operating on short, thick-set necks with narrow operative fields indicates that the improved surgical access provided by this retraction method makes tracheostomy safer to perform. We also believe that elasticated retractors may be extremely useful in other areas of head and neck surgery, and we are currently exploring their wider application.

References

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Appendix 1. Supplementary video material

A short video demonstrating the elasticated retractor method is available online at *The Journal of Laryngology & Otology* website, at http://journals.cambridge.org/10.1017/S0022215113002041.

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