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Montasir Junaid

Jinnah Medical College Hospital, Karachi.

Manal Shafiq

Jinnah Medical College, Karachi.

Sadaf Qadeer

Aga Khan University, sadaf.Qadeer@aku.edu

Sohail Haleem

Aga Khan University, sohail.haleem@aku.edu

Maliha Kazi

Aga Khan University, maliha.kazi@aku.edu

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Using Elasticated Retractors in Head and Neck Surgeries

Montasir Junaid¹, Manal Shafiq², Sadaf Qadeer³, Sohail Haleem⁴ and Maliha Kazi³

ABSTRACT

Elasticated retractors, a recent advancement in surgical techniques, provide an enhanced and effective way of retraction during head and neck surgeries. These have been used for a number of procedures and are known for their effective retraction and minimizing surgical time span. This article highlights the authors' experience and the *pros and cons* of this technique.

Key Words: *Surgical technique. Elasticated retractors.*

INTRODUCTION

Use of elasticated retractors is a recent advancement in surgical techniques. These provide an enhanced and effective way of retraction during head and neck surgeries.¹ These are blunt hooks made from stainless steel wire with traction provided by elastic bands.² The aim of this report is to describe the method of using this technique in head and neck surgeries.

The technique and results: Elasticated retractors' hooks are placed on the desired location with retraction force and angle decided by the surgeon. Full thickness of skin is taken with fat to avoid puncture over the skin surface. Similarly, in other areas of soft tissue, thick tissue is taken for retraction. Artery clamps (blunt /not sharp, any size) are used to fix the loose rubber end. Clamp is not placed in direct contact of the retractor rubber end as it breaks or tears the rubber after constant use and results in shortening of the retractor. The authors suggest that the draping sheets should be used to fully cover the loose rubber end and the clamp should be applied over it, thus avoiding the direct contact with elastic rubber. These retractors are re-usable and need to be cleaned with a strong disinfectant such as activated Glutaraldehyde after the surgery is finished.

Over 4 years (January 2012 to January 2016), the retractors were used in 250 head and neck cases so far at our center, in surgeries such as thyroid (52 patients) (Figure 3), parotid (20 patients), neck dissection (108 patients), tracheostomy (22 patients), others (48 patients); (Sistrunk's procedure, Branchial cyst, neck

node biopsies etc.). Authors were able to reduce the number of surgical assistants from 3 - 4 to almost 2 in most of head and neck cases. The total time of surgery was highly variable in neck dissections as it depends mostly on load of disease; but there was a reduction of at least 20 - 30 minutes in surgeries such as thyroid, parotid and others. This technique did minimal trauma to the tissue due to its blunt edges and was also time saving for the surgeon.

DISCUSSION

This technique allowed the surgeon and assistant to proceed with surgery without the need to maintain retraction with a hand-held instrument.³ It made a single skin incision (Figure 1) for neck exposure possible, rather than a Y, T or wine glass incision, avoiding a 3-point junction, especially in the post-irradiated neck.⁴ In Pakistan, this surgical instrument is rather new. The elasticated retractors have been used for a number of procedures e.g., the retraction of skin (Figure 2), muscles, facial planes as well as carotid sheath.⁴ These provide multiple sites of retraction, all at the same time without using any space in the surgical field. So there was an improved field of vision, with no obstruction to surgeon's vision and hand movement. These retractors also provide the surgeon with a constant, non-variable retraction, so these are better than the hand-held retractors subjected to the constant shifting and variable pull during long-hour surgeries.

It reduced the need for manual retraction, thereby relieving the assistant surgeon and enhancing the quality of the learning experience.⁴ Assistant skills are not required so it leaves more time for learning. The force of retraction along with angle can easily be adjusted according to the surgeon's need and hence reduces the time of surgery due to consistent desirable retraction.

Elasticated retractors are not advocated for vascular surgeries and bone retraction, i.e. mandible retraction. These are not suitable for such procedures where constant shift of position during retraction is required. In

¹ Department of ENT, Head and Neck Surgery, Jinnah Medical College Hospital, Karachi.

² Medical Student, Jinnah Medical College, Karachi.

³ Department of ENT / Research⁴, The Aga Khan University Hospital, Karachi.

Correspondence: Dr. Montasir Junaid, Assistant Professor, Department of ENT, Head and Neck Surgery, Jinnah Medical College Hospital, Karachi.

E-mail: doc_montsj@yahoo.com

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Figure 1: Elasticated retractors being used in single neck incision.



Figure 2: Elasticated retractors being used for retraction of muscles.



Figure 3: Elasticated retractors in thyroid surgery.

fact, it consumes more time to continuously change position of retractors and get the desired exposure. These retractors are not suitable for areas which are friable or easily breakable (infected skin tags or tissue). Further, the elasticated retractors do not affect the outcome of surgery in terms of blood loss, other complications, and result in early discharge from hospital.

CONCLUSION

Elasticated hooks are easy to use and time effective in head and neck surgeries. Their primary intent is to provide the surgeon with a better and more desirable surgical field. Their use in head and neck surgeries is relatively new and still needs time to prove its place amongst ENT surgeons. Though its use is well

documented elsewhere, in Pakistan it still awaits proper recognition. The authors recommend elasticated retractors to be incorporated in almost all head and neck surgeries.

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