



Novel Technique for Handling Wide Angle Contact Lens During Vitrectomy

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Abstract

Vitrectomy procedures often require the use of a wide-angle contact lens to provide a comprehensive view of the retina. Maintaining the stability of this lens is critical for the success of the surgery. This manuscript describes a method of using sterile surgical tape to secure the wide-angle contact lens during vitrectomy, ensuring better stability and consistent visualisation, improving surgical outcomes.

Keywords: Vitrectomy Lens; Wide-Angle Contact Lens

Introduction

Effective visualisation during vitrectomy surgery is crucial for achieving optimal outcomes. The use of wide-angle contact lenses facilitates panoramic views of the retina but requires precise handling to maintain stability and clarity throughout the procedure [1].

Various non-contact lenses (e.g., BIOM) for vitrectomy have been routinely used by surgeons which provides hassle free surgery and does not need any assistant to hold the lens. Contact vitrectomy lens provides better stereoscopic view in comparison to non-contact lens. The major demerit of using a contact vitrectomy lens is that it needs stabilisation with the help of a handle that is held by the assistant. In absence of a side scope in operating microscope, it is usually difficult for an assistant to hold the lens steady and the lens tends to slip. Alternative to this, retention rings can be used which are usually sutured and contact lens can be kept in them so that lens does not slip from its position. But this technique needs an additional ring which can be costly and it also needs additional sutures.

A newer modification in contact lenses is self-stabilization flanges that gives extra stability to the lens. But even with these self-stabilisation technique, lenses do tend to slip sideways. This

manuscript presents a technique using surgical tape to secure and stabilise the wide-angle contact lens, offering a simple and effective solution to this problem.

Materials and Methods

Ensure the patient is properly positioned and draped. Confirm the vitrectomy machine and instruments are prepared and sterile. Select an appropriate wide-angle contact lens (e.g., Volk HRX SSV vitrectomy lens) for the procedure which should be sterile according to standard protocols. Cut two strips of surgical tape (e.g., 3M Transpore or Micropore tape), each approximately 5-7 cm in length and approximately 3-4 mm in thickness. Place the contact lens on the cornea, ensuring proper alignment and focus after putting adequate amount of bubble free viscoelastic substance over the cornea. Carefully place one strip of tape to the upper edge of the lens superiorly (12'o clock position) securing it to the forehead. Avoid covering the visual field of the lens. Adjust the tension of the tape to ensure the lens is held firmly in place without causing discomfort to the patient or distorting the lens. At 6'o clock position, a counter pressure can be applied with one of the finger by the surgeon, if required for even better stability of lens or a second strip of tape over the upper edge of the lens inferiorly at 6'o clock, securing it to the cheek. Again, ensure the tape does not obstruct the view through the lens. Perform the vitrectomy as planned, periodically checking the stability of the lens and the clarity of the visual field. If necessary, adjust the tape to maintain optimal lens positioning.

Discussion

Using tape to secure the wide-angle contact lens during vitrectomy has been observed to significantly improve the stability of the lens, providing a consistent and clear view of the retina throughout the procedure without the need of any additional accessory to hold the lens. Additionally, this method minimises the need for an assistant to hold the lens.

The use of tape to secure the wide-angle contact lens offers several advantages like keeping the lens firmly in place and reducing the likelihood of displacement during surgery. The method is simple and can be quickly implemented with readily available materials. Surgical tape is inexpensive and widely available, making this technique accessible in various surgical settings. By eliminating the need for a handheld lens holder, the surgeon can operate more efficiently and focus on the procedure.

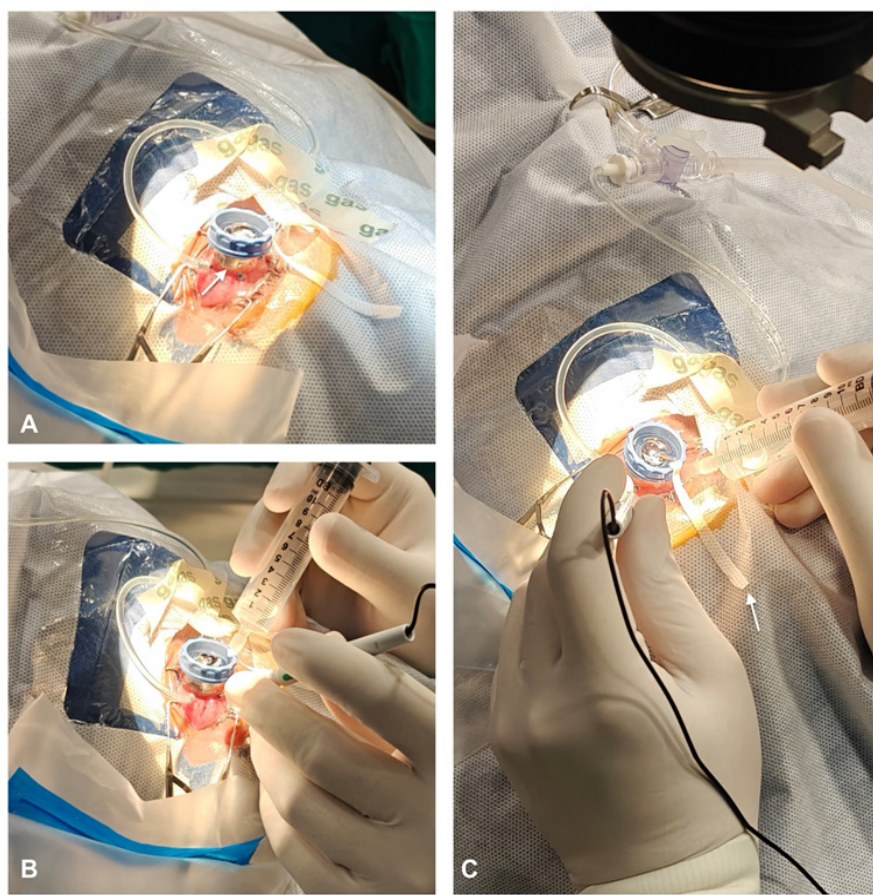


Figure 1: A – Shows well draped eye with wide angle contact lens (Volk HRX SSV) over the cornea, with flanges marked by white arrow. B – Shows a steady and stable lens during surgical procedure. C – Sterile surgical tape attached to upper edge of the lens to the forehead, marked by white arrow, at 12’o clock position, keeping the lens table.

Conclusion

Securing a wide-angle contact lens with tape during vitrectomy is an effective and inexpensive technique that enhances lens stability, improves surgical visualization, and streamlines the procedure. This method is simple, cost-effective, and can be easily adopted in clinical practice, contributing to better surgical outcomes.

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Conflict of Interest

No conflicts of interest.

Bibliography

1. Shah VA and Chalam KV. "Autoclavable wide-angle contact lens for vitreous surgery". *American Journal of Ophthalmology* 137.2 (2004): 359-360.