



Simple evisceration technique uses radiofrequency

New method allows more precise dissection and placement of a large orbital implant.

By Mario Goisis, MD

There is a new technique of scleral quadrisection that uses a patented 4 MHz radiofrequency instrument.

The Goisis RF Elevator from Ellman International is similar in shape to a Freer elevator and is able to cut tissues, coagulate and dissect with a radiofrequency probe. Thus, evisceration with the Goisis RF Elevator is simpler and faster than traditional evisceration with scalpel and forceps, and it allows placement of a large orbital implant. It provides dissection with greater precision, low temperature and reduced tissue alteration, which results in less pain and swelling and faster healing.

Surgical technique

Xylocaine 0.5% with epinephrine hydrochloride (1:100,000) is injected subconjunctivally to minimize bleeding and help dissection. Then, a conjunctival peritomy is made with the Goisis RF Elevator for 360° around the corneal limbus, and the conjunctival plane is elevated by dissection. Cutting, coagulation and dissection are made with the same instrument. The anterior chamber is entered with the Goisis RF Elevator, a 360° keratotomy is performed, and the cornea is excised.

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The edge of the residual scleral shell is grasped with Hudson forceps and the Goisis RF Elevator is used to separate the globe content from the sclera, and the choroid, retina and vitreous are removed. The central retinal artery and vortex veins are cauterized with the same device, and the uveal remnants are destroyed with radiofrequency.

The superior and medial rectus muscles are isolated and hooked. Then, a full-thickness sclerotomy from the limbal incision to the optic nerve is done with the Goisis RF Elevator in the quadrant between these muscles. The procedure is repeated in the superolateral, inferolateral and inferomedial quadrants. Four scleral flaps are then shaped.

Then, a properly sized orbital implant is placed between the scleral flaps, and the four scleral flaps are closed over the implant with an interrupted 5-0 polyglactin suture. Tenon's fascia is drawn over the sclera and closed in one layer using non-interrupted 5-0 polyglactin sutures. Then, the conjunctiva is sutured over Tenon's fascia with interrupted 5-0 polyglactin sutures. An appropriately sized conformer is inserted and left in place until the patient returns to see an ocularist in 10 days.



Preoperative view before evisceration of the left eye.



The same patient 30 days after the surgical intervention.

Images: Goisis M

Discussion

In recent times, many evisceration techniques have been described, especially for accommodating large implants because the placement of small implants is associated with enophthalmos, superior sulcus deformity, ectropion and post-enucleation socket syndrome. Many techniques using relaxing scleral incisions and sclerotomy procedures have been described to enlarge the internal surface area of the sclera to allow coverage of implants 20 mm or 22 mm in diameter with no tension. Consequently, the latest patented radio wave technology using advanced high-frequency (4 MHz) waveform technology is a good option for evisceration with scleral quadrisection.

Surgery step-by-step

1. A conjunctival peritomy is performed with the RF Elevator for 360° around the corneal limbus. The conjunctival plane is elevated by dissection with the same instrument. In this way, cutting, coagulation and dissection are obtained with the same instrument.
2. The anterior chamber is entered with the RF Elevator, a 360° keratotomy is done and the cornea is excised.
3. The edge of the residual scleral shell is grasped with the Hudson forceps, and the RF Elevator is used to divide the globe content from the sclera.
4. The superior and medial rectus muscles are isolated and hooked. Then, a full-thickness sclerotomy from the limbal incision to the optic nerve is performed with RF Elevator in the quadrant between these muscles.
5. An appropriately sized implant is inserted into the orbit.
6. The four scleral flaps are closed over the implant with interrupted 5-0 polyglactin suture. Tenon's fascia is drawn over the sclera and is closed in a one-layered fashion using non-interrupted 5-0 polyglactin sutures. The conjunctiva is then sutured over the Tenon's fascia with interrupted 5-0 polyglactin suture.

For more information:

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