191 Pearls for Müller's Muscle-Conjunctival Resection Ptosis Procedure Combined with Upper Blepharoplasty

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The Müller's muscle-conjunctival resection ptosis procedure is a relatively simple means of relieving upper eyelid ptosis in patients whose upper eyelids elevate close to a normal level when phenylephrine drops are placed in their upper fornix (Putterman and Urist 1975; Putterman 1999a; Putterman and Fett 1986). Although the procedure is fast to perform, there are pearls to know and pitfalls to avoid in order to achieve optimal results.

- A frontal nerve block is performed to provide sensory anesthesia of the upper eyelid without infiltrating the lid, which can make the procedure more difficult to perform. The $1^{1}/_{2}$-in. retrobulbar needle is placed centrally and hugs the roof of the orbit during insertion. The surgeon should aim toward the temporal roof of the orbit rather than the nasal roof to avoid penetration of the supraorbital artery, which could cause a retrobulbar hemorrhage. Also, the surgeon should withdraw the syringe before injecting the anesthetic to make sure that the needle has not been passed into a blood vessel.
- A scratch incision is made over the area of excessive upper eyelid skin outlined in ink. If this is not done, the marked areas could smear and disappear on eversion of the upper eyelid.
- Usually a large-sized Desmarres retractor is employed, but occasionally it is necessary to use a medium retractor.
- The 6-0 black silk marking suture is placed only through conjunctiva. If it penetrates Müller's muscle, a subconjunctival hemorrhage can occur, which could interfere with the resection of both conjunctiva and Müller's muscle.
- The clamp made for this procedure (Bausch & Lomb Storz Instruments, Manchester, MO) that has three teeth on each side seems to work the best.
- The amount of resection is determined preoperatively by the patient's response to phenylephrine. If the amount of ptosis differs on each side, usually the difference in the amount of resection is double the difference in ptosis. For example, if the MRD1 preoperatively is 0.5 mm on one side and 1.5 mm on the other side, then a 2-mm difference in the amount of Müller's resection is accomplished, for example, a 9-mm resection on the 0.5-mm side and a 7-mm resection on the 1.5 mm side.
- An attempt is made to clamp only conjunctiva and Müller's muscle. If tarsus is included, it is slipped out of the clamp. Occasionally, if the eyelid level does not go up to the desired position with phenylephrine, a few millimeters of tarsus are included in the clamp along with Müller's muscle and conjunctiva.
- With small amounts of resection, 6.25–7.25 mm, it is sometimes challenging to apply

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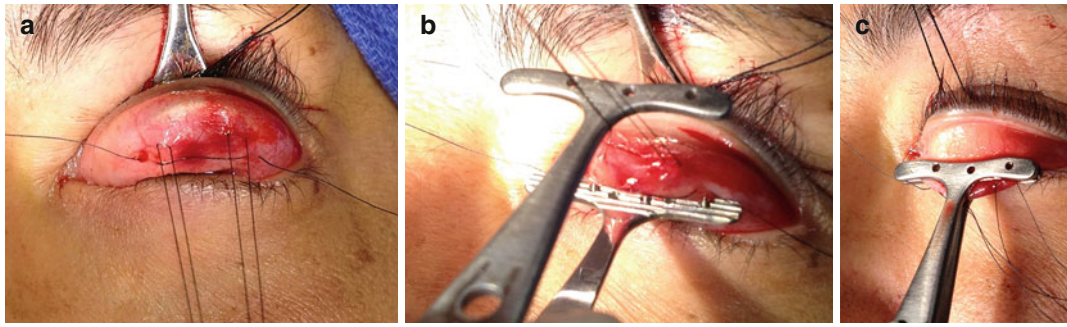

Fig. 191.1 (**a**) Two 6-0 double-armed sutures are placed through conjunctiva and Muller's muscle between the superior tarsal border and the marking suture nasal centrally and temporal centrally. (**b**) After engaging the three teeth of the blade of the clamp into the marking suture bites of conjunctiva, the two double-armed sutures are pulled upward by the assistant as the surgeon releases the Desmarres retractor. (**c**) The clamp blades are closed and secured without incorporating tarsus

the clamp without incorporating superior tarsus. In these cases, after placement of the marking suture, 2-6-0 double-armed sutures are placed through conjunctiva and Muller's muscle between the superior tarsal border and marking suture nasal centrally and temporal centrally (Fig. 191.1a). These sutures are left long, and each arm of the double-armed suture is tied to the other arm. After engaging the three teeth of the blade of the clamp into the marking suture bites on conjunctiva, the 2 double-armed sutures are pulled upward by the assistant as the surgeon releases the Desmarres retractor (Fig. 191.1b), and the clamp blades are closed and secured (Fig. 191.1c). The two double-armed sutures are removed or cut short, and the suturing and resection are performed as usual.

- A 5-0 plain catgut suture with a spatula needle is used. This needle will not sever the mattress suture when the running suture is passed through conjunctiva.
- The mattress suture bites are placed close together through tarsus and slightly farther away on the conjunctival surface. This minimizes postoperative keratopathy from the suture rubbing on the eye.
- Each arm of the 5-0 plain catgut suture needle is passed through the temporal conjunctiva into the wound so that the knot will fall into the subconjunctival space and not rub on the eye. The surgeon leaves the first needle in place while passing the second needle to avoid cutting the suture.
- The suture needles are taped to the surgical drapes to avoid a needle stick (Putterman 2003).
- Pull the upper lid downward with the traction suture placed through central upper eyelid skin, orbicularis oculi muscles, and tarsus while pulling the skin above the central incision site upward and outward allows penetration of Westcott scissors into the suborbicularis space. This avoids cutting the levator, Müller's muscle, and orbital septum. The 5-0 plain gut sutures are tied after removal of skin and orbicularis on the upper eyelid and after cautery. It is best not to tie them before this to avoid breaking the internal 6-0 plain gut sutures.
- The eyelid crease is formed by attaching orbicularis muscle to levator aponeurosis with polyester fiber (Mersilene) sutures, as well as 6-0 polyglactin (Vicryl) sutures that pass through the skin, levator aponeurosis, and skin (Putterman 1999b; Putterman and Fagien 2008).

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