Correspondence

Re: Yamane et al.: Sutureless 27-gauge needle-guided intrascleral intraocular lens implantation with lamellar scleral dissection (Ophthalmology 2014;121:61-6)

Dear Editor:

We read the recent article by Yamane et al with interest.[1] In their retrospective study, they presented the outcomes of sutureless scleral fixated intraocular lens implantation (SSFIOL) with lamellary scleral dissection.[1] In their technique, the authors first created the entries for 25-gauge vitrectomy and then performed half-thickness, lamellar scleral incisions parallel to the limbus by opening the conjunctiva. They created 2 scleral tunnel incisions with a 27-gauge needle starting with these 2 incisions, and placed the haptics into those tunnels at about 1.5 mm. It seems to us that the authors did not take advantage of the benefits of the SSFIOL technique involving 25-gauge vitrectomy, which results in less damage to the surrounding tissues. Sutureless scleral fixation of the intraocular lens (IOL) can easily be carried out without additional incisions. In our technique, we enter the eye with 25-gauge vitrectomy trocars, without any opening of the conjunctiva; we create two, 3-mm scleral tunnels parallel to the limbus that are 180° apart, angulating the scleral surface by 10°. After this, we leave the trocar cannulas in places and perform vitrectomy by entering through the 2 cannulas. Then, 1 haptic of the IOL, which is implanted through a clear corneal incision, is held with a forceps that inserted through clear corneal incision and grasped in the eye with a forceps that inserting into the eye via trocar cannula. By repeating same process for the other haptic, both haptics are implanted into the sclera.[2,3]

Using 2 needles simultaneously for intraocular maneuvers, as Yamane et al reported in their article, may pose a greater risk of trauma to the environmental tissues. As seen in Figure 1C in the study by Yamane et al, it is understood that the first haptic and its needle should be pushed behind the iris to the periphery to maintain in the scene of surgical area, while the second haptic should be affixed by the needle with the help of forceps.[1] With those maneuvers, the needles may damage the iris, ciliary body, and environmental tissues. Because of this, we think that it is more appropriate to affix and remove the haptics from the eye separately rather than at the same time. In addition, in our trocar-assisted technique, there is no risk of touching or damaging the surrounding tissues near the entries because the forceps enters and exits through the trocar cannulas.[2]

Yamane et al reported 3 cases of iris capture.[1] It seems that the scleral laceration of 1.5 mm that the authors used facilitated the implantation of the haptics into the tunnels. In our practice, we have encountered some difficulty in certain cases where we used a needle while implanting haptics into the tunnels starting with the sclerostomy site. On the other hand, we have observed that our technique maintains good stability of the IOLs, as a 3-mm part of the IOL haptic stays in the tunnel and IOL haptics have good memory.[3] With the 1.5-mm placement of the haptics into the tunnels reported by Yamane et al, they could not benefit from the memory of the haptic material and there was less scleral support. The 3 cases (8.6%) of iris capture may have resulted from weak axial stability secondary to decreased scleral support.

We developed the trocar-assisted technique because we had encountered some difficulty with the needle-assisted approach when it came to implanting the haptics into the tunnels. In the trocar-assisted technique, the haptics are easily implanted and the operative time is shorter. Moreover, we have not encountered any decentralization of the IOL or iris capture in 17 operations that we performed using the 24-gauge-needle—assisted technique or in 12 cases using the trocar-assisted technique.[3] Similarly, Gabor et al[4] reported no decentralization of the IOL or iris capture in their study using a 24-gauge needle. On the other hand, Scharioth et al[5] reported 2 (3.2%) spontaneous dislocations of the IOL, 1 (1.6%) traumatic dislocation of the IOL, and 1 (1.6%) iris capture in 63 cases (6.4% complications related with the IOL overall) with the 24-gauge needle technique. The authors stated that they used a 2- to 3-mm scleral tunnel, but did not mention whether the complications occurred in cases with short (or long) tunnels.[5] We ensured that the scleral tunnels were ≥3 mm long and did not observe such complications.[2,3] In other words, whereas IOL-related complications have been reported at a rate of 0% to 6.4% in the 24-gauge needle and 25-gauge trocar-assisted techniques,[2–5] in the study by Yamane et al study using a 27-gauge needle, the rate of complications was 8.6%.[1] The authors stated that smaller sclerotomies might result in better IOL stability. In our view, the amounts of the haptics remaining in the scleral tunnels are as important as the sizes of the sclerotomies.

In previous studies of SSFIOL, peripheral iridectomies were not performed, in contrast with the study by Yamane et al.[1–5] Moreover, we did not observe any iris capture in the operations we performed, although we did not carry out iridectomy.[2,3] However, Yamane et al observed a rate of 8.6% iris capture even though they did perform iridectomies.[1] This reminds us that, in these cases, the amounts of haptics remaining in the scleral tunnels are more important for IOL stability than whether peripheral iridectomies are performed.

In conclusion, different techniques for SSFIOL have recently been developed. It is our opinion that in those cases, the amounts of the haptics remaining in the scleral tunnels is important for IOL stability.

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References

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