Temporal Surgical Approach in Microincisional Transconjunctival Vitrectomy

Different orientation improves access to superior pathologies.

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Microincisional vitrectomy, performed with 23-, 25-, or 27-gauge instrumentation, offers many advantages when compared with conventional 20-gauge vitrectomy. Among the advantages is the possibility of creating small, self-sealing transconjunctival wounds that lead to less postoperative inflammation and patient discomfort and more rapid recovery of visual acuity compared with sutured 20-gauge wounds.[1-7]

In conventional surgery, the infusion cannula is placed in the inferotemporal quadrant, and 2 sclerotomies are performed in the upper quadrants. In microincisional surgeries, however, interchangeable microcannulas are used, so it is easier to change the position of the infusion cannula to one of the other accesses to the vitreous cavity. This allows the surgeon to perform vitrectomy with a temporal orientation—an approach that can be used regardless of whether it was planned prior to surgery.

The temporal surgical orientation offers several advantages in certain situations. It overcomes the limitations imposed by instrument flexibility, improves visualization, and provides a better approach to superior vitreoretinal pathologies. Indications for use of the temporal approach include superior retinal detachments, superior retinal tears, giant retinal tears, proliferative diabetic retinopathy, pseudophakic retinal detachments, and ocular trauma (Table 1).

TABLE 1. INDICATIONS FOR TEMPORAL APPROACH

- Superior retinal detachment
- Superior retinal tear
- Giant retinal tears
- Proliferative diabetic retinopathy
- Pseudophakic retinal detachment
- Ocular trauma

SURGICAL TECHNIQUE

For a temporal surgical approach, 3 microcannulas are introduced, following normal guidelines to achieve the best integrity of the wound. The sclera is flattened, and the conjunctiva is displaced to make a long linear wound during trocar insertion.

One microcannula is inserted inferotemporally, another superotemporally, and a third superonasally in the conventional fashion (Figures 1 and 2). However, the infusion port is attached to the superonasal microcannula, and the vitrectomy is performed through the other cannulas.

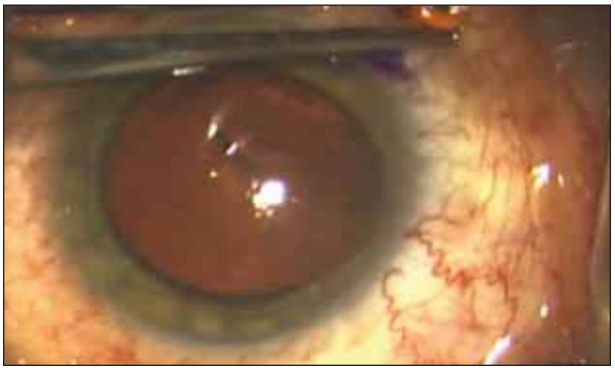

Figure 1. One microcannula is inserted superonasally.

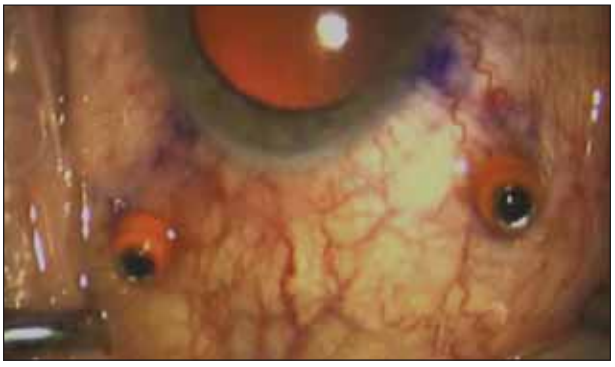

Figure 2. One microcannula is inserted inferotemporally and another superotemporally.

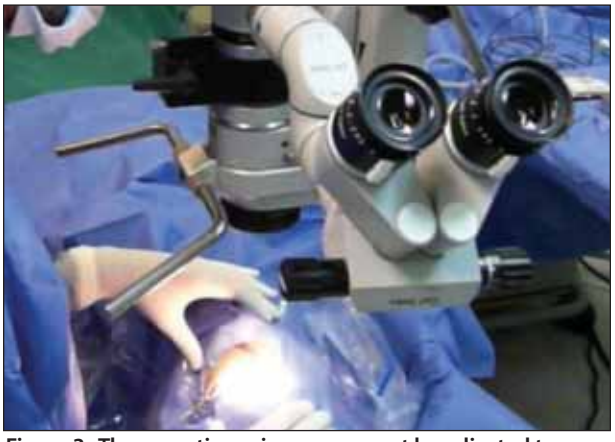

Figure 3. The operating microscope must be adjusted to a temporal orientation.

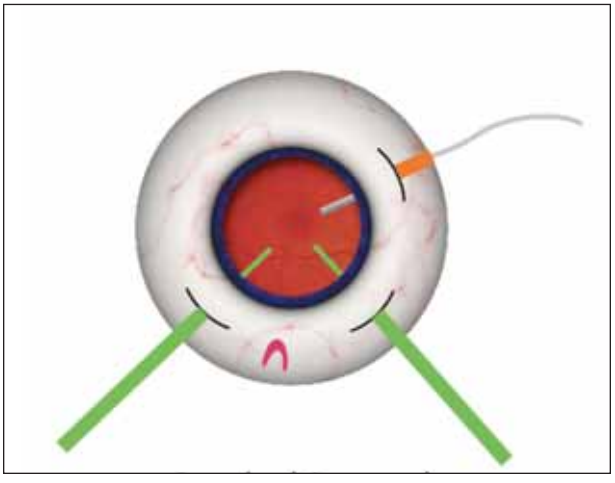

Figure 4. With a standard approach, it is difficult to work on superior vitreoretinal pathologies.

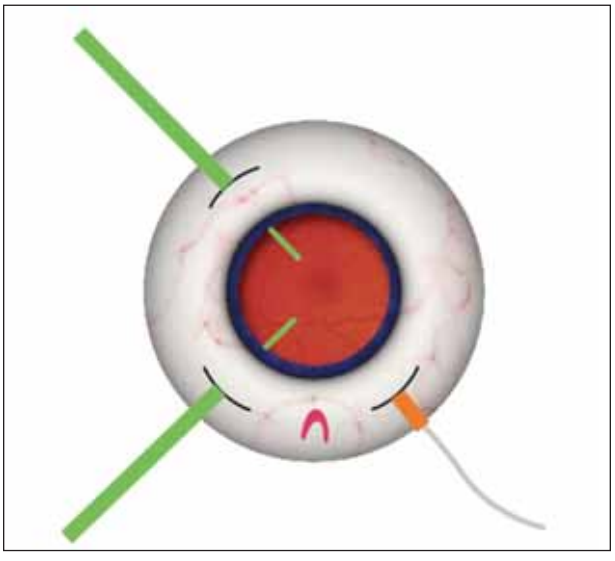

Figure 5. The temporal approach makes it easier to work on superior vitreoretinal pathologies.

The surgeon, the operating microscope, and the footpedals must be adjusted to perform surgery with a temporal orientation (Figure 3), and it is important that the patient gurney have enough room around it so that the surgeon can sit on the temporal side of the patient if needed.

In cases in which surgery was initiated with conventional positioning and the surgical position must be changed, the maneuver can easily be performed if the infusion cannula is relocated and footpedals and microscope position adjusted intraoperatively (Figure 3). In order to avoid inconvenience when using nonvalved trocars, intraocular pressure should be increased before removing the trocars and cannula plugs inserted in each one.

CONCLUSION

Use of temporal positioning in vitreoretinal surgery is infrequent, but the flexibility provided by new microcannula instrumentation allows good results to be achieved with this approach (Figures 4-6). Whether use was previously planned or decided upon during

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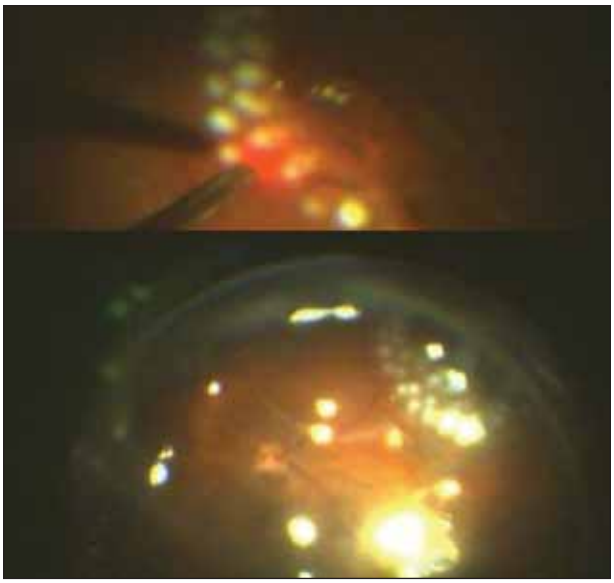

Figure 6. Endophotocoagulation is performed at 12 o'clock with temporal approach.

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the surgery, access from the superior quadrant enables better and more precise intravitreal maneuvers in the pathologies described above. ■

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