

Vitreotomizing surgery with 2 sclerotomies: vitreous and macular diseases

Author: Cesare Mariotti, Ancona, Italy

Advantages:

The most common approach to vitreoretinal surgery is with 3 ports, regardless of the size of the instruments (20, 23, 25g.) New infusion line system w/light allows using only 2 sclerotomies to treat various diseases. In addition, the new light gives more illumination during the vitrectomy for complex retinal pathologies requiring surgery. It allows a bi-manual retina approach without having to use an extra chandelier light. A 25g system is considered to be efficient and less invasive. Because of this, new technology offers a 25g infusion line with a 27g internal light (25g Synergetics high flow infusion (IIC) connected to 27g light (Photon II, Synergetics USA, Inc.)).

Methods:

55 eyes were divided into 2 groups:

- 2- sclerotomy group: -20 macular puckers, -8 diabetic macular edemas, -2 vitreous hemorrhages, -2 macular holes, -2 vitreous opacities, -2 silicon oil removals, -2 uveitis.
- 3- sclerotomy group: -10 retinal detachments w/proliferative vitreous retinopathy (PVR), -6 proliferative diabetic retinopathies, -1 ophthalmitis.

IIC is positioned on inferonasal side for right eye (right-handed) and on inferotemporal side for left eye (right-handed,) to avoid shadows created by instruments in posterior pole. Positioning of second trocar must be very accurate in order to provide direct access to macula to minimize flexions of 25g equipment. IIC is positioned in same way for 3-port vitrectomies. The left hand manipulates light source to obtain better view of posterior/peripheral retina.

Effectiveness / Safety:

A 25g infusion line used with a 27g light allows use of only 2 sclerotomies to treat different diseases. This new technology gave optimal 25g-surgery results. Traditional 20g system is successful, but availability of new technology in field is exciting: less invasive surgery and valid results, for both patients and surgeons. New technology is a reality and constitutes progress in the surgical field.