

## **Application of retina vacuum massage for intraoperative closing of macular holes stage 3-4**

Authors: Ural R. Altynbayev, M.M. Bikbov, Ufa, Russia

### **Advantages:**

The method allows achieving an intraoperative approximation of the edges in stage 3 - 4 macular holes, to prevent mechanical damage of photoreceptors and pigment epithelium and to improve anatomical and functional outcomes.

### **Methods:**

The present study includes 12 patients with idiopathic macular hole (8 women, 4 men), mean age was 63,6 years. According to the Gass classification 66,7 % of the patients had a macular hole 3 stage and 33,3 % stage 4, respectively. All patients had partial vitrectomy with an excision of the posterior hyaloid and internal limiting membrane peeling. With the usage of a silicone soft tip cannula joined to the backflush handpiece, vacuum massage was performed at the edges of the macular hole until its full closing. In 8 cases a tamponade with an air-gas mixture (20 % SF<sub>6</sub>) was performed and in 4 cases - with air only.

### **Effectiveness / Safety:**

At the end of surgery, full closure of the macular hole was achieved in all cases (100 %). Two patients with stage 3 macular holes who received an air tamponade, showed a partial hole opening on day 10 postoperatively. At 6 months full anatomical closure of the macular hole after one operation was achieved in 91,6 % of cases. One case had revision surgery with air-gas tamponade. Mean final visual acuity was  $0,2 \pm 0,06$  (range: 0,08 to 0,5) after a follow-up of 8 months.

### **Take home message:**

Vacuum massage at the macular hole provides achievement of an intraoperative closure of the macular hole and improvement of anatomical and functional results.