The highly purified polydimethylsiloxane (PDMS) with a viscosity of 5000 centistokes (cs) is the preferred silicone oil endotamponade in vitreoretinal surgery (20 gauge) and shows high stability. In contrast in transconjunctival minimally invasive surgery (23 gauge) the application of 5000 cs. silicone oil shows substantial disadvantages because of time-consuming and difficult application procedure due to the small lumen of the used surgical equipment. Consequently silicone oils with lower viscosity like the 2000 cs silicone oil are being increasingly used in transconjunctival surgery. We present two cases of early emulsification of the 2000 cs silicone oil (Siluron 2000 ©, Fluoron, Neu-Ulm, Germany) consisting of highly purified PDMS in the course of minimally invasive transconjunctival vitreoretinal surgery. In both cases 23 gauge vitrectomy with application of 2000 cs silicone oil was performed without any complication. The first case is a 34-year-old female with proliferative diabetic retinopathy who had already experienced several vitreoretinal operations. The present indication for vitrectomy was a persistent macular hole and vitreous haemorrhage. The second case is a 55-year-old pseudophakic patient with a retinal detachment after vitrectomy with gas endotamponade following rhegmatogenous retinal detachment. In the first case emulsification of silicone oil was seen on the second
postoperative day. In the second case emulsification was discovered two weeks postoperatively. In both cases high intraocular pressure did not occur. With emerging performance of minimally invasive vitrectomy techniques the use of silicone oil with low viscosity in patients with conceivable endurance of the endotamponade appears to be beneficial. Up to now 10 patients have undergone 23 gauge vitrectomy with application of 2000 cs silicone oil without any complications in our clinic. In contrast, two cases demonstrated early emulsification of the 2000 cs silicone oil. To the best of our knowledge this complication has not been described before.