

## Comparison of Early Silicon Oil Removal and Late Silicon Oil Removal in Patients With Rhegmatogenous Retinal Detachment

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**Abstract :** Introduction: Currently, deep vitrectomy with silicone oil tamponade is the standard treatment method for patients with Rhegmatogenous Retinal Detachment (RRD). After retinal repair, it is necessary to remove silicone oil from the eye, but the appropriate time to remove the oil and complications related to that time has been less studied. The aim of this study was to compare the results of the early removal of silicone oil with the delayed removal of silicone oil in patients with RRD. Method & material: Patients who were referred to the Ophthalmology Clinic of Baqiyatallah Hospital, Tehran, Iran, due to RRD with detached macula in 2021 & 2022 were evaluated. These patients were treated with deep vitrectomy and silicone oil tamponade. Patients whose retinas were attached after the passage of time were candidates for silicone oil removal (SOR) surgery. For patients in the early SOR group, SOR surgery was performed 3-6 months after the initial vitrectomy surgery, and for the late SOR group, SOR was performed after 6 months after the initial vitrectomy surgery. Results: In this study, 60 patients with RRD were evaluated. 23 (38.3%) patients were in the early group, and 37 (61.7%) patients were in the late group. Based on our findings, it was seen that the mean visual acuity of patients based on the Snellen chart in the early group ( $0.48 \pm 0.23$  Decimal) was better than the late group ( $0.33 \pm 0.18$  Decimal) (P-value=0.009). Retinal re-detachment has happened only in one patient with early SOR. Conclusion: Early removal of silicone oil (less than 6 months) from the eyes of patients undergoing RRD surgery has been associated with better vision results compared to late removal.

**Keywords :** retinal detachment, vitrectomy, silicone oil, silicone oil removal, visual acuity

**Conference Title :** ICRRD 2023 : International Conference on Retinoblastoma and Retinal Disorders

**Conference Location :** Bali, Indonesia

**Conference Dates :** July 06-07, 2023