

# **Unexplained visual loss following removal of silicone oil (RoSO)**

## **Investigators**

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## **Abstract**

SO has an important role in providing prolonged intraocular tamponade for complex retinal detachments including those associated with proliferative vitreoretinopathy (PVR), giant retinal tears (GRT), proliferative diabetic retinopathy, ocular trauma, and viral retinitis. It also allows postoperative assessment and application of laser because of its optical clarity.

RoSO is usually indicated for visual reasons (often refractive) and to reduce the risk of progressive oil-associated complications, such as cataract, glaucoma and keratopathy. Although visual acuity usually improves, mild to moderate visual loss can occur in patients after RoSO, most commonly due to re-detachment (6-25%), CMO (12%), hypotony (16%) and epiretinal membranes (12%). Over the last ten years several case series have reported profound unexplained visual loss following RoSO in some patients. These have typically been patients with rhegmatogenous retinal detachment (RRD) without macular involvement who otherwise would have been expected to have good visual outcomes

The aetiology, prevalence and risk factors for this complication are uncertain. The aim of this study is to determine the incidence and natural history of unexplained visual loss following RoSO in patients presenting with a RRD treated by vitrectomy and SO tamponade in the UK. We will also include a case control element to examine the risk factors of unexplained visual loss following RoSO.

## **Case Definition**

Unexplained visual loss after the removal of silicone oil of  $\geq 2$  lines of Snellen visual acuity ( $>0.3$  log units, 15 ETDRS letters) or deterioration to worse than 6/60 Snellen (1.0 LogMar, 35 letters ETDRS) from the best corrected visual acuity at any point with silicone oil in-situ not attributed to any identified cause (eg CMO, hypotony or epiretinal membranes) in adult patients presenting with RRD treated in the UK by primary pars plana vitrectomy with SO tamponade with an attached retina not requiring further retinal surgery.

## **Reporting Instructions**

Please report any new patient that you have seen in the last month that has fulfilled the case definition. Please include patients referred to you, and patients you have referred to another ophthalmologist. Clinicians reporting cases will receive an initial and a 8-month follow-up questionnaire. Neither the patient nor their family will not be contacted, patient management will not be affected, and no special investigations will be required.

## **Statement of Research Questions**

1. The incidence of cases of unexplained visual loss following RoSO per annum in the UK.
2. The demographic and clinical features of patients experiencing unexplained visual loss following RoSO.
3. The ophthalmic pre-existing pathologies, which are associated with unexplained visual loss following RoSO.
4. The type of oil and technique of oil removal used in the cases experiencing visual loss.
5. The investigation of patients experiencing unexplained visual loss following RoSO.
6. The visual outcome of eyes experiencing unexplained visual loss following RoSO.