Abstract: 1464

**External Drainage of Subretinal Fluid During Rhegmatogenous Retinal Detachment Repair.**

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**Purpose:**

To describe the safety and efficacy of rhegmatogenous retinal detachment (RRD) repair with external drainage of subretinal fluid (SRF) utilizing a 28 gauge External Drainage and Depression device (EDD, #VS0290, Vortex Surgical®, Chesterfield, MO)

**Methods:**

Retrospective review of consecutive patients who underwent primary RRD repair with scleral buckle (SB), pars plana vitrectomy (PPV) or combined SB/PPV utilizing the EDD from August 2018 through March 2020, performed by 4 at two vitreoretinal practices. Data collection included demographics, details of the RRD, surgical procedure, complications, development of proliferative vitreoretinopathy (PVR) and single operation success rate (SOSR). Cases with PVR at presentation were not excluded.

**Results:**

83 eyes from 83 patients (33% female, 45% left eye) were included. The average age was 63.5 years. 58% were macula-involving, 31% macula-sparing and 11% macula-splitting. The median duration of symptoms was 14 . Posterior vitreous detachment was present in 93%, vitreous hemorrhage in 5%, epiretinal membrane (ERM) in 17% and grade B or C PVR in 28. Surgery included 65% SB/PPV, 33% PPV and 2% SB. Tamponade included perfluoropropane in 71%, sulfur hexafluoride in 28% and silicone oil in 1%. A drainage retinotomy was required in 35%. There were no cases of retinal incarceration and two patients had subretinal hemorrhage at the drainage site, both < 2 DD. Average length of followup was 136 days (range 1-552, 90% with >1 month). Two patients had recurrent detachments with PVR. One presented with grade B PVR and one with vitreous hemorrhage and no PVR. Both underwent PPV with perfluoropropane and one required a drainage retinotomy. ERM developed in 6 patients (7%) 3 of which were mild. The SOSR for those with at least one month of followup was 97% (72/74). No other complications developed.

**Conclusions:**

In this study, the utilization of a device for external drainage of SRF during RRD repair demonstrated a favorable safety profile with only two cases of subretinal hemorrhage at the drainage site (both <2DD and clinically insignificant). The single operation success rate was high at 97%. Further study of the role of external drainage in RRD repair is warranted.