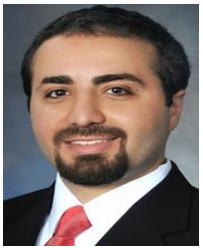
Management of Degenerative Retinoschisis Associated Retina Detachment



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OBJECTIVE The objective is to describe the clinical features and management of patients with degenerative retinoschisis associated retina detachment to identify management considerations for this rare entity.

PURPOSE Degenerative retinoschisis associated retina detachment (RSRD) is an extremely rare condition. There are a limited number of case series characterizing RSRD which contribute to a lack of consensus in the management of RSRD. The purpose of this retrospective chart review was to describe the clinical features in a series of RSRD patients to identify management considerations for this rare entity.

METHODS Charts of patients with the diagnosis of retinoschisis (ICD-9 361.1) at a busy Vitreoretinal Surgery practice from January 2000 to October 2015 were retrospectively reviewed to confirm the diagnosis of degenerative retinoschisis and the presence of an associated retina detachment. Charts with degenerative retinoschisis (RS) identified by fundus drawings with at least 3 months of follow-up were included. Eyes with a history of previous intraocular surgery (except for cataract surgery) were excluded. Descriptive statistics were calculated, and the two-tailed student's t-test and chi-squared test were used for statistical analysis.

RESULTS A total of 587 cases of RS were confirmed. Schisis cavity breaks were seen in 67 eyes (11.4%). Only 59 met inclusion. Forty eyes (6.8%) were treated for RSRD with 14 (2.4%) undergoing vitreoretinal surgery. Three groups were identified: observation (19

eyes), laser/cryotherapy (26 eyes), and surgery (14 eyes). Initially, 35/59 eyes (59%) were observed of which 16/35 (45.7%) were treated for progression. Only 10/35 (28.6%) had symptomatic progression at a mean of 19.8 months (median 12 months) typically becoming symptomatic when involving the major arcades (86.7% (13/15) symptomatic eyes vs 11.4% (5/44) asymptomatic eyes, $p<0.0001$). In all, 15 of 587 RS eyes had symptomatic RSRD (2.6%). VA did not meaningfully change in the laser/cryo group. Pars plana vitrectomy with or without scleral buckle improved VA ($p=0.409$, logMAR 0.801, ~20/135 to logMAR 0.574, ~20/75) but was not significant at mean follow-up of 32.4 months. Single procedure success for surgery was 86% vs 96% for laser/cryo.

CONCLUSION Symptomatic RSRD is a rare clinical entity noted in 2.6% of RS eyes over a 15-year period. Approximately 1 in 4 eyes with outer schisis cavity breaks may progress to symptomatic RSRD at a mean of 19.8 months. Symptoms were reported when RSRD involved the major arcades. Treatment should be reserved for symptomatic RSRD since proliferative vitreoretinopathy may complicate management in 14% of cases.

TAKE HOME MESSAGE Symptomatic retinoschisis associated retina detachment was noted in 2.6% of degenerative retinoschisis eyes. Progression occurred at a mean of 19.8 months. Reserve treatment for symptomatic eyes.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Supra Choroidal Buckling for Retinal Detachment, 4 Year Data

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- Mikel Mikhail, MD

OBJECTIVE Evaluating suprachoroidal buckling as a new technique to close peripheral retinal breaks.

PURPOSE To evaluate the 4 year data of supra choroidal buckling procedure using a supra choroidal approach, as a new approach in treating retinal tears in retinal detachment.

METHODS We performed a retrospective cohort study of 38 patients presenting with peripheral retinal breaks presenting with rhegmatogenous retinal detachment. Patients included had a diversity of tear location. We use a specially designed cannula through a supra choroidal approach. The cannula is guided in the supra choroidal space to reach the target space (underneath retinal tear). Then we inject a supra choroidal filler (Long lasting hyaluronic acid) to indent the choroid creating supra choroidal buckle closing retinal tears, and supporting the retina. All tears where treated with laser after or cryopexy before the buckling effect. This technique could be used alone or during vitrectomy.

RESULTS 35 eyes out of 38 where all adequately buckled and closed, from one procedure. A well controlled location and support of the buckle was possible through the supra choroidal space. The buckling effect was enough to seal the tears and support the chorioretinal scaring time needed for tear healing. This also could be controlled by the

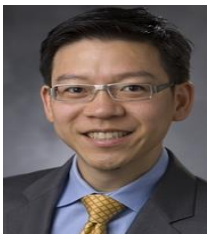
filler duration lasting time (filler type). The procedure was safe and relatively simple in reaching the treatment area and injecting it.

CONCLUSION Over the 4 year evaluation period, this technique is effective in treating retinal tears, supporting the retina and treating selected forms of retinal detachment. And could be done seldom, or in association with vitrectomy procedures. It adds to our surgical options in treating selected cases of rhegmatogenous retinal detachment avoids some potential problems of episcleral buckles. As well as avoiding vitrectomy in selected cases of rhegmatogenous RD.

TAKE HOME MESSAGE Suprachoroidal Buckling adds to our surgical options in treating selected cases of rhegmatogenous retinal detachment avoids some potential problems of episcleral buckles.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Are We Better Than We Were 10 Years Ago? An Analysis of Retinal Detachment Outcomes



- Paul Hahn, MD, PhD
- Sandra S. Stinnett, DrPH

OBJECTIVE To compare outcomes of primary retinal detachment repair in today's "modern" era versus 10 years prior.

PURPOSE Vitreoretinal surgery has experienced significant ongoing advances in vitrectomy platforms and surgical instrumentation. Compared to 10 years ago, we are unquestionably "smaller and faster." In this study, we sought to evaluate if we are actually better by comparing outcomes of retinal detachment repair across 10 years.

METHODS Retrospective review of 831 consecutive eyes undergoing RD repair at Duke University in Jan-Dec 2012 vs Jan-Dec 2002. Exclusion criteria included prior RD repair, prior PPV, RD complicated by uveitis, infection, tumor, or trauma, age<18, and followup <60 days. Eyes undergoing primary RD repair were identified by type of RD (rhegmatogenous (RRD) and tractional (TRD)) and surgical approach (scleral buckle only (SB) versus vitrectomy (PPV) with or without SB). We analyzed 201 RRD eyes (112 from 2012 vs 89 from 2002) and 102 TRD eyes (42 from 2012 vs 60 from 2002). Primary outcomes were single surgery success, final anatomic success, and change in best corrected visual acuity (BCVA).

RESULTS With respect to RRD, there was a significant shift in surgical approach over 10 years, favoring combined PPV/SB in 2012 (60%) vs SB alone in 2002 (67%). Single

surgery success (88% vs 79%, p=0.08), final anatomic success (99% vs 99%, p=1.00), and complication rates were not different in 2012 vs 2002. Primary cause of failure was PVR. Subanalysis of SB alone and of PPV+/-SB revealed decreased external SRF drainage and increased small-gauge PPV in 2012 but no significant differences in outcomes. With respect to TRD, the etiology was PDR in >90%, and the approach for TRD repair was PPV in >90% across 10 years, with a shift towards small-gauge in 2012. Single surgery success was not different (90% vs 83%, p=0.39), but there was greater final anatomic success in 2012 vs 2002 (100% vs 90%, p=0.04). Final BCVA was worse in 2012 vs 2002 (1.17 vs 0.92 logMAR, p=0.04), but change in BCVA (final compared to preoperative) was not different. Complication rate was also not different in 2012 vs 2002.

CONCLUSION Technologic surgical advances, most notably small-gauge instrumentation, faster cut rates, and improved fluidics, have made vitrectomy easier, but our success rate for primary RRD and TRD may not have improved over the past 10 years. Further understanding and prevention of PVR and other pathologic processes may be the next critical surgical advancement for improving outcomes.

TAKE HOME MESSAGE Despite technologic surgical advances including small-gauge instrumentation and faster cut rates, success rates for primary RRD and TRD may not have improved over the past 10 years.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board