Clinical Course and Characteristic of Eyes That Developed Rhegmatogenous Retinal Detachment after Endophthalmitis

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Purpose:
Following the resolution of infectious endophthalmitis, multiple pathologic sequelae can develop including the formation of cataracts, synechiae, corneal scarring, glaucoma and retinal detachment. We reviewed the incidence, clinical features, treatments and outcomes of post-endophthalmitis rhegmatogenous retinal detachments (RRD).

Methods:
A retrospective, consecutive case series was conducted on patients managed at Associated Retinal Consultants P.C. (Royal Oak, Michigan) from January 2013 thru December 2019. Patients were identified with endophthalmitis and RRD by ICD-9/10 codes. Those that developed an inoperable RRD were excluded. Demographic, clinical, microbiologic, treatment, surgical, and visual outcomes were recorded.

Results:
Charts of 413 patients were reviewed and 17 eyes in 17 patients (4.1%) were included. The mean age at initial presentation was 78.0 years and 64.7% were women. An intravitreal injection in 8 eyes (47.1%) and cataract extraction in 6 eyes (35.3%) were the most common inciting events. The average time from the inciting event to the development of endophthalmitis was 7.8 days (range 1-61 days). Thirteen patients (76.4%) were treated with intravitreal antibiotics and 4 (23.4%) were treated with an immediate vitrectomy and antibiotics. Culture results were positive in 10 of 16 biopsies (62.5%) with streptococcus species being the most common bacteria isolated (5 of 10). The average time from the development of endophthalmitis to developing an RRD was 80.3 days (range 12 to 421 days). The macula was involved in 14 eyes (82.4%). The most common configuration was a total retinal detachment in 7 eyes (41.2%). The 90-day surgical success rate was 70.6% (12 of 17) and the final anatomic success rate was 88.2% (15 of 17). The average number of surgeries was 1.4 (range 1 to 4) excluding silicone oil removal. Follow-up after the last surgery was 599 days (range 85 to 1404). The average final visual acuity (VA) was LogMar 1.58 (Snellen 20/765). Risk factors for worse VA were intravitreal injection compared to cataract extraction (p = 0.001), streptococcus species (p = 0.024), and PVR (p = 0.015).

Conclusions:
Rhegmatogenous retinal detachments following endophthalmitis occur infrequently but are associated with poor visual outcomes. Though the majority of eyes can be fixed surgically, and visual outcomes are poor, particularly in eyes previously infected with streptococcal species and with associated PVR.