An audit of primary rheumatogenous retinal detachment repair in district general hospitals

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Introduction:

Rheumatogenous retinal detachment (RRD) is a potentially blinding condition where surgery is the only definitive treatment.[1] The aim of this audit was to compare our department's results with national ophthalmology database (NOD) results on Retinal detachment surgery feasibility study (2017). [1]

Methods:

The cases performed at Royal Berkshire Hospital (RBH) and Prince Charles Eye Unit (PCEU) were reviewed retrospectively from electronic medical records.
The inclusion criteria were primary RRD surgery performed between the end of March 2019 and July 2021 and had minimum of 2 months follow up.
The exclusion criteria were non primary RRD surgery, patients age under 18, and private patients.
The primary outcomes were (i) primary success rate defined as retina attached after one operation and (ii) failure rate defined as repeat RRD surgery within 6 months, two or more post-operative operations, or no removal of silicone oil within 6 months of surgery.
The secondary outcomes were visual outcomes and complication rates.

Figure 1. Ocular comorbidities

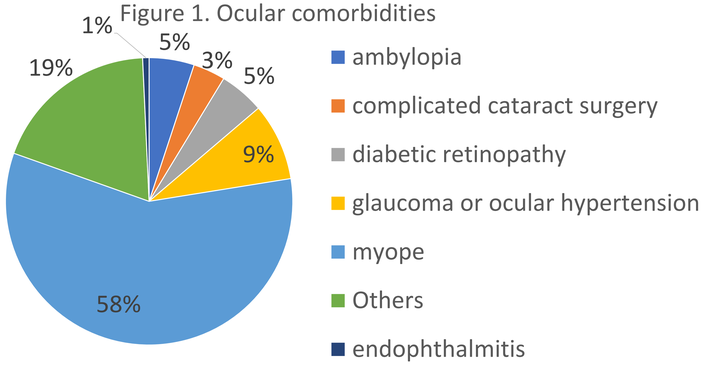


Table 1. Retina reattachment rate at 2, 3, 6 months after RD repair (%)

	PPV (n=216)	Scleral buckle (n=10)
2 months	89.3	90
3 months	86.9	80
6 months	85.5	80

Results:

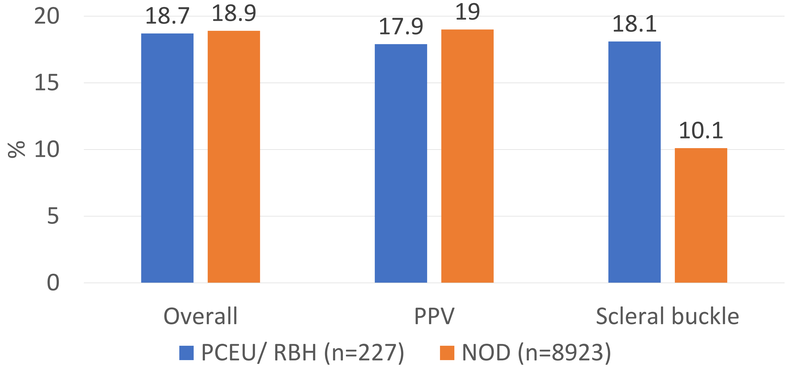
233 eyes of 231 patients were included in the study. 65% were male patients. Median age at time of surgery was 61 in PPV cases and 30 in scleral buckle cases. 58% of patients were myopic (figure 1). 67% cases were macula on RD and 32% were macula off RD. PVD was present in at least 62% of cases.

The types of operations were PPV (94%) and scleral buckle (6%). Only one case was combined PPV and scleral buckle. 65% of operations were performed by consultants and 35% by trainees. The types of gas tamponades used were SF6 (42%), C3F8 (21%), C2F6 (20%), and silicone oil (12%). 67% had cryotherapy, 14% cryotherapy + endolaser, and 8% endolaser. 3.6% cases had phacoemulsification at the same time.

The overall primary success rate at 6 months was 85% and this was 80% or more in both PPV and scleral buckle cases (table 1). The overall failure rate was comparable to NOD (figure 2). The failure rate of cases performed by consultants (16.2%) was lower than those performed by trainees (23.4%). The failure rate was higher in cases with proliferative vitreoretinopathy (PVR) in both mac on and mac off RD (50% vs 4.1%, 60% vs 15%) in keeping with literature.[2]

The median BCVA has improved from 0.8 to 0.36 post-operatively (figure 3). The intraoperative complication rates were lower than NOD (figure 4).

Figure 2. Primary RRD repair failure rate (%)



Conclusions:

Our primary RRD repair outcomes were comparable to NOD results. The failure rate was higher in RD with PVR and cases performed by trainees.

Figure 3. Pre and post-operative median BCVA

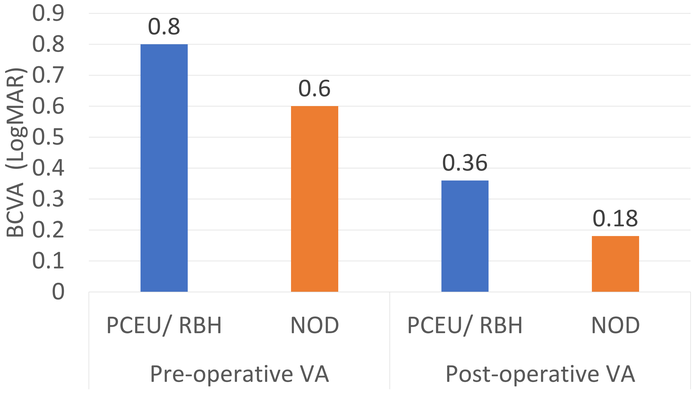
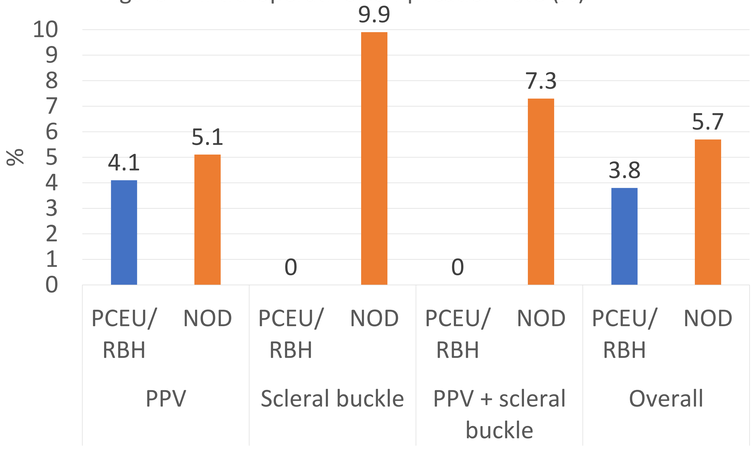


Figure 4. Intra-operative complication rate (%)



References:

1. Sparrow JM, Evans K, Barnes B, Olaitan M. National Electronic Retinal Detachment Surgery Audit: Feasibility Report. January 2017. The Royal College of Ophthalmologists.
2. Mikhail MA, Mangioris G, Casalino G, McGimpsey S, Sharkey J, Best R, Chan WC. Outcome of primary rhegmatogenous retinal detachment surgery in a tertiary referral centre in Northern Ireland - A regional study. Ulster Med J. 2017 Jan;86(1):15-19. Erratum in: Ulster Med J. 2017 May;86(2):126. Casalino, Giuseepe [corrected to Casalino, Giuseppe]. PMID: 28298707; PMCID: PMC5324174.