

Sociodemographic Factors Influencing Rhegmatogenous Retinal Detachment Presentation and Outcome

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Disclosures

- None relevant

Summary

- Rhegmatogenous retinal detachment (RRD) is a serious ophthalmic emergency and requires urgent surgical intervention
- Socioeconomic factors are important determinants for health outcome
- In this series of 4,061 patients, older age, male gender, non-Caucasian race, and lower regional mean household income were associated with fovea-off presentation of RRD
- Non-Caucasian race was associated with recurrent RRD
- Finally, 12-month post-operative visual acuity was worse in older patients, male gender, and non-Caucasians

Background

- Lower socioeconomic status (SES) has been associated with late presentation of glaucoma, AMD, diabetic retinopathy, and lower utilization of amblyopia services
- Rhegmatogenous retinal detachment (RRD) is an ophthalmic emergency and requires urgent surgical treatment
- The impact of SES on RRD outcomes has not been studied in the US

Subjects

- Retrospective, single-center study over a 5 year period (2015-2020)

Inclusion Criteria

- Patients with RRD
- Treated with pars plana vitrectomy and/or scleral buckle, pneumatic retinopexy, laser barricade or cryopexy.

Exclusion Criteria

- Only the first eye of patients with bilateral RRD were included
- Patients with incomplete records such as demographic information, visual acuity (VA), and postoperative follow up < 90 days

Methods

Demographic Factors

- Age
- Gender
- Regional mean household income
- Self-reported race

Clinical Outcomes

- Fovea-on or fovea-off detachment estimated by VA cutoffs of $\leq 20/40$ or $\geq 20/200$ at presentation
- Re-operation within 90 days
- 12-month postoperative VA

Results

| | Fovea-on RRD (N=2,201) | Fovea off RRD (N=1,860) | P value |
|--|------------------------|-------------------------|---------|
| Age, years | 58 ± 13 | 63 ± 14 | < 0.001 |
| Gender | | | |
| Male | 1,252 (57%) | 1,148 (62%) | 0.002 |
| Female | 949 (43%) | 712 (38%) | |
| Regional mean household income, US dollars | 73,282 ± 15,773 | 71,435 ± 16,999 | < 0.001 |
| Self-reported race | | | |
| Caucasian | 1,900 (93%) | 1,520 (87%) | < 0.001 |
| Non-Caucasian | 152 (7%) | 234 (13%) | |

Association with Fovea-off RRD

| | Odds ratio | P value |
|-----------------------|------------------------|---------|
| Age | 1.34 per decade | <0.001 |
| Male gender | 1.27 | <0.001 |
| Mean household income | 0.94 per \$10,000 less | 0.005 |
| Non-Caucasian race | 2.41 | <0.001 |

Re-operation within 90 days

| | Odds ratio | P value |
|------------------------|-----------------|---------|
| Age | Not significant | |
| Male gender | Not significant | |
| Mean household income | Not significant | |
| Non-Caucasian race | 1.72 | <0.001 |
| Fovea-off presentation | 1.47 | <0.001 |

12-month Post-operative Visual Acuity

| | Beta | P value |
|------------------------|------------------|---------|
| Age | 0.024 per decade | 0.041 |
| Male gender | 0.059 | 0.038 |
| Mean household income | Not significant | |
| Non-Caucasian race | 0.13 | 0.007 |
| Fovea-off presentation | 0.71 | <0.001 |

Limitations

- Retrospective, single center study
- VA was utilized as a surrogate of foveal attachment of RRD
- Regional, not individual, household income was ascertained by zip code
- Ocular comorbidities affecting VA, such as cataract, glaucoma etc, could not be controlled for