ELDERLY PATIENTS WITH RETINAL DETACHMENT: CLINICAL CHARACTERISTICS AND COMPARATIVE SURGICAL OUTCOMES IN A MULTICENTER STUDY

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Older adults are growing segments of the world population, but little is known about the characteristics and outcomes of rhegmatogenous retinal detachment (RRD) in this age group.

We examined 2144 patients with RRD, and compared older adults (80 or older) to younger patients.

Older adults presented with more macula-involving RRD (P<0.001) and more proliferative vitreoretinopathy (P=0.02).

Single surgery success and visual outcomes were worse compared to younger patients.

Vitrectomy + scleral buckle had better outcomes compared to vitrectomy alone.
83 year old woman
Pseudophakic total rhegmatogenous retinal detachment (RRD)
Case Example

- Duration unclear, lives in a nursing home
- Has back issues and may not be able to position
1. Have RRDs in elderly patients been characterized well?

2. What are the best ways to repair the RRDs?
Study Rational

- The number of older Americans will double by 2050
- Population of those in 80s and 90s will increase from 9,300,000 in 2000 to 19,500,000 in 2030
- By age of 85, there maybe a 3% lifetime risk of RRD
- Unique considerations:
  - Not well characterized, especially 80 and older
  - Anesthesia risks
  - Medical co-morbidities
  - Post-operative positioning difficulties
Study Design

- Post-hoc analysis of the Primary Retinal Detachment Outcomes (PRO) study
- Consecutive patients with primary RRD in 2015 from 6 centers
- Compared 40-79 year olds vs 80+ (2 SD from the mean)
- Primary outcome: single surgery anatomic success (SSAS)
Results: Demographics

- 2144 cases included
- Mean age 62 (range 40-91)
- Older (80+) patients were more likely to be:
  - Female (48% vs 35%, P = 0.02)
  - Diabetic (22 vs 12%, P < 0.001)
  - Without family history of RRD (2% vs 9%, P = 0.008)
Results: Ocular Characteristics

- Older adults more likely to:
  - Be pseudophakic (89% vs 44%, \( P < 0.001 \))
  - Have prior vitrectomy for other pathologies (7% vs 2%, \( P = 0.002 \))
  - Have a history of intravitreal injections (7% vs 1%, \( P = 0.002 \))
  - Have a history of age-related macular degeneration (17% vs 2%, \( P < 0.001 \))
  - Have less lattice degeneration (7% vs 23%, \( P < 0.001 \))
Results: RD Characteristics

- Older adults more likely to present with:
  - Worse vision (20/500 vs 20/200, P < 0.001)
  - Macula-off detachments (67% vs 49%, P < 0.001)
  - PVR (12% vs 7%, P = 0.02)
  - Larger RRDs (6.0 clock hours vs 5.1, P < 0.001)
Results: Intraoperative

- Older adults were more likely to:
  - Receive silicone oil tamponade (10% vs 4%, \( P < 0.001 \))
  - Receive perfluorocarbon liquid (18% vs 13%, \( P = 0.04 \))
  - Require PVR peeling (10% vs 5%, \( P = 0.009 \))
  - Require simultaneous ERM peeling (9% vs 5%, \( P = 0.04 \))
Results: Anatomic Outcomes

- Older adults, compared to younger patients, had:
  - Had worse single surgery success (78% vs 84%, $P = 0.03$)
  - Buckle-vitrectomies had better single surgery success compared to vitrectomy alone (74% vs 91%, $P = 0.03$)
  - More likely to have persistent silicone oil at the end of followup (13% vs 4%, $P < 0.01$)
  - Multivariate regression models showed that SB/PPV was predictive of higher single surgery success, while requiring ERM peeling was predictive of worse SSAS.
Results: Visual Outcomes

- Older adults, compared to younger patients, had:
  - Had worse final visual acuity (20/125 vs 20/50, P < 0.001)
  - PPV had worse visual outcomes compared to PPV/SB (20/160 vs 20/63, P 0.03)
  - Multivariate regression models showed that PPV/SB predicted better visual outcomes (P = 0.03) while pre-operative PVR (P = 0.035) and silicone oil requirement (P = 0.013) were predictive of poorer outcomes.
Important Findings

1. Older adults are more likely to present with macula-off RRD with PVR.

2. Majority underwent primary PPV, but PPV/SB had significantly better anatomic and visual outcomes.
Discussion

- We will be treating more elderly patients going forward
- Will more likely present with more complex RRDs
- Will likely have more perioperative social and medical issues that may limit effectiveness of routine management
- Consider SB/PPV
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