

Sutureless 23-gauge versus 20-gauge vitrectomy with silicone oil injection in rhegmatogenous retinal detachment.

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Abstract

PURPOSE: To report the efficacy of 23-gauge (G) pars plana vitrectomy with silicone oil injection in rhegmatogenous retinal detachment.

METHODS: Retrospective chart review of consecutive patients with retinal detachment who underwent pars plana vitrectomy by one of two surgeons using distinct and consistent methods. All patients undergoing 23-G pars plana vitrectomy did not have scleral buckling, whereas all patients undergoing surgery by 20-G pars plana vitrectomy had additional 240-band encircling scleral buckle. All patients received silicone oil tamponade. Patients with proliferative vitreoretinopathy Grade D, previous retinal detachment surgery, and penetrating eye injury were excluded. The main outcome measure was the final anatomical reattachment rate. The secondary outcome measures were the improvement in visual acuity and recurrence rate of retinal detachment after primary surgery.

RESULTS: Eighteen patients in the 23-G group and 21 patients in the 20-G group were analyzed. The mean age of the patients was 48.05 ± 10.37 years and 42.57 ± 17.84 years in the 23-G and 20-G groups, respectively. The mean follow-up duration was 5.9 months (range, 2-12 months) and 6.2 months (range, 4-9 months) in the 23-G and 20-G groups, respectively. The primary reattachment rate was 83.3% (95% confidence interval, 66.11%-100%) in the 23-G group and 86.8% (95% confidence interval, 67.81%-100%); $P = 1.00$ in 20-G group. The mean preoperative logarithm of the minimum angle of resolution visual acuity was 1.30 ± 0.57 (Snellen equivalent 20/400) in the 23-G group and 1.27 ± 0.70 (Snellen equivalent 20/400) in the 20-G group ($P = 0.80$). The mean logarithm of the minimum angle of resolution visual acuity at 1 month after the surgery was 0.66 ± 0.25 (Snellen equivalent 20/100) in the 23-G group and 0.77 ± 0.50 (Snellen equivalent 20/120; $P = 0.46$) in the 20-G group. The visual acuity at the last visit was 0.80 ± 0.52 (20/125) versus 0.65 ± 0.44 (20/100) in the 23-G and 20-G, respectively ($P = 0.32$).

CONCLUSION: Silicone oil injection with 23-G system is possible and is associated with favorable anatomical success in cases of rhegmatogenous retinal detachment.