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doi: 10.1007/s00592-019-01357-y. Epub 2019 May 14.

TRActional DIabetic reTInal Detachment Surgery With Co-Adjuvant Intravitreal dexamethasONe Implant: The TRADITION STUDY

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PMID: 31089929 DOI: 10.1007/s00592-019-01357-y

Abstract

Aim: Main failure of diabetic tractional retinal detachment (TRD) surgery is the development of proliferative vitreoretinopathy (PVR), causing higher re-detachment rates. We investigated whether the use of dexamethasone (DEX) implant at the end of pars plana vitrectomy (PPV) with silicone oil tamponade might have an impact on these outcomes.

Design: Comparative, nonrandomized, retrospective study.

Participants: A total of 148 eyes from 148 patients that underwent PPV with silicone oil tamponade for diabetic TRD (with DEX implant, n = 52; without DEX implant, n = 96).

Methods: Consecutive patients' records were reviewed for time between TRD diagnosis and surgery; lens status before surgery and after 6, 12, and 24 months; retina attachment rate after primary PPV; change in postoperative PVR severity; rate of re-detachment at 6, 12, and 24 months; use of IOP lowering treatment after 6, 12, and 24 months; surgery details; intra- and postoperative complications. Correlations between outcome measures, postoperative PVR severity, and re-detachment rates were analyzed.

Main outcome measures: Change in postoperative PVR severity and retinal re-detachment rates with and without the adjuvant use of DEX implant.

Results: Retinal re-detachment rates were significantly higher in the group of patients that did not receive DEX implant [11/96 (11.5%) vs. 0/52 (0%), p = 0.049; 11/84 (12.9%) vs. 4/52 (7.7%), p = 0.007; 14/71 (19.7%) vs. 5/52 (10%) p < 0.001 at 6, 12, and 24 months, respectively]. PVR severity correlated with retinal status at 12 and 24 months (p = 0.018 and p = 0.027, respectively). The difference in PVR severity between the two groups was statistically significant at 6, 12, and 24 months (p < 0.001).

Conclusions: DEX implant at the end of PPV in patients with diabetic TRD improves PVR severity and decreases re-detachment rates. This should be considered as an option in the customized treatment of TRD.

Keywords: Pars plana vitrectomy for complex retinal detachment; Pars plana vitrectomy for diabetic retinopathy; Pars plana vitrectomy with silicone oil; Steroid; Traction retinal detachment.

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