

Alteration of tear film after vitrectomy and its influencing factors

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[View references \(10\)](#)

Abstract

Purpose: To detect the prevalence of dry eye after vitrectomy and its influencing factors. **Methods:** Schimer I, Tear Basic Secretion Test and Tear Breakup Time was done preoperatively and 2 months postoperatively on consecutive patients undergoing vitrectomy in Khatam Hospital from 2000 to 2006. Eyes with previous peritomies of more than 120° and symptoms of dry eye or tear tests compatible with a diagnosis of dry eye were excluded. Intraoperative factors including the extent of peritomy, extent of inadvertent conjunctival lacerations, extent of scleral depression and the instrument used for scleral depression were recorded. Scleral depression was graded extensive if it was done for more than 180° of globe circumference. **Results:** Seventy five eyes of 70 patients were studied. Forty six (64.3%) of patients were male. The mean age of the patients was 47.13±18.80 years. Peritomy size was on average 179.23°±12.70 and the mean size of conjunctival ruptures was 2.18±2.22 mm. Based on the type of instrument used for scleral depression, patients were divided into 4 groups: 1) metallic instrument, 6 cases (8%) 2) cotton applicator, 22 cases (29.3%) 3) both, 14 cases (18.7%) 4) none (no scleral depression), 33 cases (43.7%). Of 22 cases with scleral depression, the depression was extensive in 30 cases (46.7% of all eyes). Thirteen eyes (17.3%) developed tear film parameters or symptoms consistent with dry eye. All of these eyes had undergone extensive scleral depression. Cotton applicator had been used significantly more in cases which developed dry eye. There was a direct relation between extent of peritomy and inadvertent conjunctival laceration and development of dry eye. **Conclusion:** Due to damage to the conjunctiva during operation, vitrectomy is apt to cause dry eye. To lower the risk of this complication, scleral depression, peritomy and possibility of inadvertent conjunctival lacerations should be minimized. It is also better to use metallic instruments for scleral depression rather than cotton applicator.

Author keywords

Complication; Dry eye; Peritomy; Scleral depression; Vitrectomy

ISSN: 1730-103 Source Type: Journal Original language: English

Document Type: Article