Changing of intraocular pressure in patients after descemet stripping automated endothelial keratoplasty: a retrospective analysis

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Descemet stripping automated endothelial keratoplasty (DSAEK) is a relative new technique of tissue-sparing corneal surgical procedure (figure 1). After this intervention an elevation in intraocular pressure (IOP) seems to occur often. So far there are only few papers to investigate a change in IOP following DSAEK, none of them with a big size of participants [1, 2]. This study aims to report the alteration of IOP and the rate of patients with newly administered or increased pressure lowering treatment in patients undergoing DSAEK with and without the previous diagnosis of glaucoma or pseudoexfoliation (PEX) syndrome.

A total of 211 consecutive DSAEK cases of 226 patients performed by one single surgeon between January 2007 and November 2010 were analysed retrospectively. Only patients with at least one year follow up were included. Forty-five eyes had glaucoma, 24 eyes had previous glaucoma surgery. Seventeen eyes demonstrated PEX syndrome. IOP and the number of antiglaucoma medication preoperatively and at 1-, 3-, 6, and 12-month postoperative visits were extracted from the medical records. Data analysis included calculation of the incidence of postoperative IOP elevation. The criteria for significant postoperative IOP elevation were IOP >= 25 mm of Hg either measured by dynamic contour tonometry (DCT) or Goldmann applanation tonometry (GAT).

Ninety-two eyes (43.6%) showed at least once an increase of IOP over 25 mmHg after DSAEK. Thirty-seven (40.2%) of these had a diagnosis of glaucoma or PEX syndrome, fifty-five (59.8%) had no predisposing risk factors and were classified as pure steroid responders. Seventy-nine eyes (34.4%) showed a major decompensation of IOP and therefore the necessity to initiate or increase pressure-lowering therapy. A total of 15 eyes (7.1%) needed glaucoma surgery to control IOP.

An increase of IOP is quite common in eyes after DSAEK (figure 2) and a significant number of patients need IOP lowering treatment. Pre-existing glaucoma is a risk factor for IOP elevation rather than PEX syndrome. Response to topical steroid treatment seems to be the main causative mechanism. In most cases, IOP remains controlled with conservative management, however some patients need glaucoma surgery.

References

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