Risk factor	Level of	Number of study results		
	association*	Univariate	Multivariate	Total
Infectious keratitis vs. keratoconus	1	8	0	8
Corneal dystrophy (general) vs. keratoconus	1	8	0	8
Type of surgery: PKP vs. DALK	1 (H)	7	1	8
Combined surgery: Triple procedure (yes vs.no)	1 (H)	6	2	8
Preoperative: Aphakic vs. phakic	1 (H)	6	1	7
Preoperative: Pseudophakic vs. Phakic	1 (H)	6	1	7
Scar vs. keratoconus	1	6	0	6
Others (general) vs. keratoconus	1 (H)	5	0	5
Graft oversize in PKP (large vs. small)	1 (H)	3	2	5
Indication (general)	1	3	1	4
Preoperative treatment of glaucoma surgical	1 (H)	3	1	4
Trauma vs.keratoconus	1	3	0	3
Herpetic keratitis vs. keratoconus	1	3	0	3
Combined surgery: Keratoplasty + anterior segment reconstruction	1	2	1	3
Duration of steroid use (longer use)	1	1	2	3
FED vs.keratoconus	1 (H)	3	0	3
Combined surgery: Keratoplasty + ECCE	1 (H)	2	1	3
Foreign vs. domestic donor grafts	1 (H)	3	0	3
Type of surgery: ALK vs. DSAEK	1	1	1	2
Type of surgery: DALK converted to PKP	1	2	0	2
Type of surgery (general)	1	2	0	2
Width of the incision (large vs. small) in DSAEK or DLEK	1	2	0	2
Interrupted vs.interrupted + single continuous	1	2	0	2
Rebubbling	1	1	1	2
Intraoperative perforation of the Descemet membrane during DALK	1	1	1	2
Age donor (older age)	1 (H)	2	0	2
Ethnicity: Non-Chinese vs. Chinese	1 (H)	1	1	2
Sulfar hexafluoride SF6 20% vs. 100% air (bubble technique)	1 (H)	2	0	2
Postoperative graft failure/rejection	1 (H)	1	1	2
Preoperative treatment with medication vs. surgical	1	1	0	1
Preoperative treatment with one vs. two or more medications	1	1	0	1
Diabetes mellitus	1	1	0	1
Hypertension	1	1	0	1
Family history of keratoconus	1	1	0	1
History of steroid use (systemic + topical)	1	1	0	1
History of vernal keratoconjunctivitis	1	1	0	1
Non-optical vs.optical indication	1	0	1	1
Keratoconus + vernal keratoconjunctivitis vs.	1	1	0	1
keratoconus only				
Adherent leucoma vs. keratoconus	1	1	0	1
Descemetocele vs. keratoconus	1	1	0	1
Band keratopathy vs.keratoconus	1	1	0	1

## Supplemental file 8. Overview of the risk factors not associated with ocular hypertension after keratoplasty

Dysgenesis vs. keratoconus	1	1	0	1
Corneal edema vs. keratoconus	1	1	0	1
			0	
Preoperative: Aphakic or pseudophakic vs. Phakic	1	1	-	1
Preoperative: Lens status in general	1	0	1	1
Preoperative: Placement of IOL: sulcus vs.bag	1	1	0	1
Preoperative: Placement of IOL: scleral fixated vs. Bag	1	1	0	1
Ethnicity: Region of the United States (East, West, Midwest, South)	1	1	0	1
Type of surgery: Re-PKP vs. EK after failed PKP	1	1	0	1
Type of surgery: DMEK	1	1	0	1
Type of surgery: DALK	1	1	0	1
Combined surgery: Keratoplasty + secondary IOL	1	1	0	1
Combined surgery: Keratoplasty + cataract extraction with IOL in ciliary sulcus vs. IOL in bag	1	1	0	1
Zig Zag vs. top-hat in PKP	1	1	0	1
Zig Zag with femtosecond vs. mechanical trephine in PKP	1	1	0	1
Manual top-hat vs. regular PKP	1	1	0	1
Manual half top-hat vs. top-hat PKP	1	1	0	1
Trephination with excimer vs. motor	1	1	0	1
Busin Guide-assisted vs. forceps-assisted DSAEK	1	1	0	1
Stitch-assisted vs. forceps-assisted DSAEK	1	1	0	1
Laterality:Left vs. right	1	1	0	1
Graft diameter in DSAEK (per mm increase)	1	1	0	1
Graft diameter in DALK (per mm increase)	1	0	1	1
Size of malapposition	1	0	1	1
ANWAR bigbubble technique	1	0	1	1
Type of steroid use: Prednisolone acetate 0.12% vs. dexamethasone 0.1%	1	0	1	1
Ocular surgery after keratoplasty	1	0	1	1
Cataract surgery after keratoplasty	1	1	0	1
Postoperative graft status: Clear graft vs. graft with bullous keratoplasty	1	1	0	1
Postoperative presence of peripheral anterior synechiae	1	1	0	1
Graft clarity (high to low clarity)	1	1	0	1
Pre- and postoperative: Presence of peripheral anterior synechiae	1	1	0	1

\* Level of association: 1 = not associated; H= heterogeneity

Abbreviations: (D)ALK = (deep) anterior lamellar keratoplasty, DLEK = deep lamellar endothelial keratoplasty, DMEK = descemet membrane endothelial keratoplasty, DS(A)EK = descemet stripping (automated) endothelial keratoplasty, ECCE = extracapsular cataract extraction, EK = endothelial keratoplasty, FED = Fuchs endothelial dystrophy, IOL = intraocular lens, PKP = penetrating keratoplasty