

## BIBLIOGRAPHIE

### Histoire de la kératoplastie endothéliale – de la première greffe endothéliale à nos jours

- [1] Pellier de Quengsy G. Précis ou cours d'opérations sur la chirurgie des yeux par M.G. Pellier de Quengsy, fils. Paris: Didot; 1789.
- [2] Reisinger F. Die Keratoplastik: ein Versuch zur Erweiterung der Augenheilkunst. Bayerische Ann Chir Augenheilk 1824;1:207–15.
- [3] Von Hippel A. Eine neue Methode der Hornhauttransplantation. Graefes Arch Ophthalmol 1888;34:108–30.
- [4] Zirm E. Eine erfolgreiche totale Keratoplastik. Graefes Arch Ophthalmol 1906;54:580–93.
- [5] Barraquer JI. Queratoplastia: Problemas que plantea la fijacion del injerto. In: Ophthalmologicum Acta 1951;151:999–1004.
- [6] Barraquer JI. Lamellar keratoplasty. (Special techniques). Ann Ophthalmol 1972;4:437–69.
- [7] Tillett CW. Posterior lamellar keratoplasty. Am J Ophthalmol 1956;41:530–3.
- [8] Culbertson WW. Endothelial replacement: flap approach. Ophthalmol Clin North Am 2003;16:113–8.
- [9] Busin M, Monks T, Arffa RC. Endokeratoplasty in the rabbit model: A new surgical technique for endothelial transplantation. Ophthalmology 1996;103:167.
- [10] Ko WW, Frueh BE, Shields CK, et al. Experimental posterior lamellar transplantation of the rabbit cornea. (ARVO abstract). Invest Ophthalmol Vis Sci 1993;34:1102.
- [11] Jones DT, Culbertson WW. Endothelial lamellar keratoplasty (ELK). (ARVO abstract). Invest Ophthalmol Vis Sci 1998;39:876.
- [12] Melles GRJ, Eggink FAGJ, Lander F, et al. A surgical technique for posterior lamellar keratoplasty. Cornea 1998;17:618–26.
- [13] Melles GRJ, Lander F, Beekhuis WH, et al. Posterior lamellar keratoplasty for a case of pseudophakic bullous keratopathy. Am J Ophthalmol 1999;127:340–1.
- [14] Melles GR. Posterior lamellar keratoplasty: DLEK to DSEK to DMEK. Cornea 2006;25:879–81.
- [15] Melles GRJ, Lander F, van Dooren BTH, et al. Preliminary clinical results of posterior lamellar keratoplasty through a sclerocorneal pocket incision. Ophthalmology 2000;107:1850–7.
- [16] Terry MA, Ousley PJ. Deep lamellar endothelial keratoplasty in the first United States patients: early clinical results. Cornea 2001;20:239–43.
- [17] Melles GR, Lander F, Nieuwendaal C. Sutureless, posterior lamellar keratoplasty: A case report of a modified technique. Cornea 2002;20:239–43.
- [18] Terry MA, Ousley PJ. Small-incision deep lamellar endothelial keratoplasty (DLEK) : Six-month results in the first prospective clinical study. Cornea 2005;24:59–65.
- [19] Terry MA, Ousley PJ. Deep lamellar endothelial keratoplasty visual acuity, astigmatism, and endothelial survival in a large prospective series. Ophthalmology 2005;112:1541–8.
- [20] Ousley PJ, Terry MA. Stability of vision, topography, and endothelial cell density from 1 year to 2 years after deep lamellar endothelial keratoplasty surgery. Ophthalmology 2005;112:50–7.
- [21] Melles GR, Wijdh RH, Nieuwendaal CP. A technique to excise the Descemet membrane from a recipient cornea (descemetorhexis). Cornea 2004;23:286–8.
- [22] Gorovoy M, Price FW. New technique transforms corneal transplantation. Cataract Refract Surg Today 2005;11:55–8.
- [23] Price Jr FW, Price MO. Descemet's stripping with endothelial keratoplasty in 50 eyes: a refractive neutral corneal transplant. J Refract Surg 2005;21:339–45.
- [24] Gorovoy MS. Descemet-stripping automated endothelial keratoplasty. Cornea 2006;25:886–9.
- [25] Price MO, Price FWJR. Endothelial cell loss after Descemet stripping with endothelial keratoplasty influencing factors and 2-year trend. Ophthalmology 2008;115:857–65.
- [26] Park CY, Lee JK, Gore PK, Lim CY, Chuck RS. Keratoplasty in the United States. A 10-year review from 2005 through 2014. Ophthalmology 2015;122:2432–42.
- [27] Chen ES, Terry MA, Shamie N, et al. Precut tissue in Descemet's stripping automated endothelial keratoplasty donor characteristics and early postoperative complications. Ophthalmology 2008;115:497–502.
- [28] Price MO, Gorovoy M, Benetz BA, et al. Descemet's stripping automated endothelial keratoplasty outcomes compared with penetrating keratoplasty from the Cornea Donor Study. Ophthalmology 2010;117:438–44.
- [29] Li JY, Terry MA, Goshe J, et al. Three-year visual acuity outcomes after Descemet's stripping automated endothelial keratoplasty. Ophthalmology 2012;119:1126–9.
- [30] Tourtas T, Laaser K, Bachmann BO, et al. Descemet membrane endothelial keratoplasty versus Descemet stripping automated endothelial keratoplasty. Am J Ophthalmol 2012;153:1082–90.
- [31] Busin M, Madi S, Santorum P, et al. Ultrathin Descemet's stripping automated endothelial keratoplasty with the microkeratome double-pass technique: two-year outcomes. Ophthalmology 2013;120:1186–94.
- [32] Melles GRJ, Rietveld FJR, Pels E, et al. Transplantation of Descemet's membrane carrying viable endothelium through a small scleral incision. Fort Lauderdale, USA: ARVO Abstract; May 1998.
- [33] Melles GR, Lander F, Rietveld FJ. Transplantation of Descemet's membrane carrying viable endothelium through a small scleral incision. Cornea 2002;21:415–8.
- [34] Melles GR, Ong TS, Ververs B, van der Wees J. Descemet membrane endothelial keratoplasty (DMEK). Cornea 2006;25:987–90.
- [35] Baydoun L, Müller T, Lavy I, et al. Ten-year clinical outcome of the first patient undergoing Descemet membrane endothelial keratoplasty. Cornea 2017;36:379–81.
- [36] Melles GR, Ong TS, Ververs B, van der Wees J. Preliminary clinical results of Descemet membrane endothelial keratoplasty. Am J Ophthalmol 2008;145:222–7.
- [37] Rodríguez-Calvo-de-Mora M, Quilendrino R, Ham L, et al. Clinical outcome of 500 consecutive cases undergoing Descemet membrane endothelial keratoplasty. Ophthalmology 2015;122:464–70.
- [38] Dapena I, Ham L, Netuková M, et al. Incidence of early allograft rejection after Descemet membrane endothelial keratoplasty. Cornea 2011;30:1341–5.
- [39] Anshu A, Price MO, Price Jr FW. Risk of corneal transplant rejection significantly reduced with Descemet's membrane endothelial keratoplasty. Ophthalmology 2012;119:536–40.
- [40] Cursiefen C. Descemet membrane endothelial keratoplasty: the taming of the shrew. JAMA Ophthalmol 2013;131:88–9.
- [41] Terry MA. Endothelial keratoplasty: Why aren't we all doing Descemet membrane endothelial keratoplasty? Cornea 2012;31:469–71.
- [42] Groeneveld EA, Lie JT, van der Wees J, et al. Standardized "no-touch" donor tissue preparation for DALK and DMEK: harvesting undamaged anterior and posterior transplants from the same donor cornea. Acta Ophthalmol 2013;91:145–50.
- [43] Dapena I, Moutsouris K, Droutras K, et al. Standardized "no touch" technique for Descemet membrane endothelial keratoplasty (DMEK). Arch Ophthalmol 2011;129:88–94.
- [44] Kruse FE, Laaser K, Cursiefen C, et al. A stepwise approach to donor preparation and insertion increases safety and outcome of Descemet membrane endothelial keratoplasty. Cornea 2011;30:580–7.
- [45] Liarakos VS, Dapena I, Ham L, et al. Intraocular graft unfolding techniques in Descemet membrane endothelial keratoplasty. JAMA Ophthalmol 2013;131:29–35.
- [46] Melles GRJ, Dapena I. How to get started with standardized "no-touch" Descemet membrane endothelial keratoplasty (DMEK). Rotterdam: Netherlands Institute for Innovative Ocular Surgery; 2014.
- [47] Tourtas T, Schlomberg J, Wessel JM, et al. Graft adhesion in Descemet membrane endothelial keratoplasty dependent on size of removal of host's Descemet membrane. JAMA Ophthalmol 2014;132:155–61.
- [48] Price MO, Price Jr FW. Descemet's membrane endothelial keratoplasty surgery: update on the evidence and hurdles to acceptance. Curr Opin Ophthalmol 2013;24:329–35.
- [49] Oellerich S, Baydoun L, Peraza-Nieves J, et al. Multicenter study of 6-month clinical outcomes after Descemet membrane endothelial keratoplasty. Cornea 2017;36:1467–76.

- [50] Deng SX, Lee WB, Hammersmith KM, et al. Descemet membrane endothelial keratoplasty: Safety and outcomes. A report by the American Academy of Ophthalmology. *Ophthalmology* 2018;125:295–301.
- [51] Flockerzi E, Maier P, Böhringer D, et al. all German Keratoplasty Registry Contributors. Trends in corneal transplantation from 2001 to 2016 in Germany: A report of the DOG-Section Cornea and its keratoplasty registry. *Am J Ophthalmol* 2018;188:91–8.
- DSAEK et DSAEK ultra-fine : méthodes de préparation et avantages de la technique**
- [52] Eye Bank Association of America. Eye Banking Statistical Report, [www.restore sight.org](http://www.restore sight.org); 2014.
- [53] Lee WB, Jacobs DS, Musch DC, et al. Descemet's stripping endothelial keratoplasty: safety and outcomes: a report by the American Academy of Ophthalmology. *Ophthalmology* 2009;116(9):1818–30.
- [54] Wacker K, Bourne WM, Patel SV. Effect of graft thickness on visual acuity after Descemet stripping endothelial keratoplasty: a systematic review and meta-analysis. *Am J Ophthalmol* 2016;163:18–28.
- [55] Busin M, Albe E. Does thickness matter: ultrathin Descemet stripping automated endothelial keratoplasty. *Curr Opin Ophthalmol* 2014;25(4):312–8.
- [56] Cheung YY, Hou JH, Bedard P, et al. Technique for preparing ultrathin and nanothin Descemet stripping automated endothelial keratoplasty tissue. *Cornea* 2018;37(5):661–6.
- [57] Deng SX, Lee WB, Hammersmith KM, et al. Descemet membrane endothelial keratoplasty: safety and outcomes: a report by the American Academy of Ophthalmology. *Ophthalmology* 2018;125(2):295–310.
- [58] Melles GR, Eggink FA, Lander F, et al. A surgical technique for posterior lamellar keratoplasty. *Cornea* 1998;17(6):618–26.
- [59] Melles GR, Wijdh RH, Nieuwendaal CP. A technique to excise the Descemet membrane from a recipient cornea (descemetocephisis). *Cornea* 2004;23(3):286–8.
- [60] Price Jr FW, Price MO. Descemet's stripping with endothelial keratoplasty in 200 eyes: Early challenges and techniques to enhance donor adherence. *J Cataract Refract Surg* 2006;32(3):411–8.
- [61] Gorovoy MS. Descemet-stripping automated endothelial keratoplasty. *Cornea* 2006;25(8):886–9.
- [62] Cheng YY, Pels E, Nuijts RM. Femtosecond-laser-assisted Descemet's stripping endothelial keratoplasty. *J Cataract Refract Surg* 2007;33(1):152–5.
- [63] Hsu M, Hereth WL, Moshirfar M. Double-pass microkeratome technique for ultra-thin graft preparation in Descemet's stripping automated endothelial keratoplasty. *Clin Ophthalmol* 2012;6:425–32.
- [64] Busin M, Madi S, Santorum P, et al. Ultrathin Descemet's stripping automated endothelial keratoplasty with the microkeratome double-pass technique: two-year outcomes. *Ophthalmology* 2013;120(6):1186–94.
- [65] Dickman MM, Kruit PJ, van den Biggelaar FJ, et al. Single-pass dissection of ultrathin organ-cultured endothelial lamellae using an innovative microkeratome system. *Cornea* 2016;35(1):100–4.
- [66] Nahum Y, Leon P, Busin M. Postoperative graft thickness obtained with single-pass microkeratome-assisted ultrathin Descemet stripping automated endothelial keratoplasty. *Cornea* 2015;34(11):1362–4.
- [67] Talamo JH, Meltzer J, Gardner J. Reproducibility of flap thickness with IntraLase FS and Moria LSK-1 and M2 microkeratomes. *J Refract Surg* 2006;22(6):556–61.
- [68] Woodward MA, Titus MS, Shtein RM. Effect of microkeratome pass on tissue processing for Descemet stripping automated endothelial keratoplasty. *Cornea* 2014;33(5):507–9.
- [69] Kimakura M, Sakai O, Nakagawa S, et al. Stromal bed quality and endothelial damage after femtosecond laser cuts into the deep corneal stroma. *Br J Ophthalmol* 2013;97(11):1404–9.
- [70] Dickman MM, van Maris MP, van Marion FW, et al. Surface metrology and 3-dimensional confocal profiling of femtosecond laser and mechanically dissected ultrathin endothelial lamellae. *Invest Ophthalmol Vis Sci* 2014;55(8):5183–90.
- [71] Hjortdal J, Nielsen E, Vestergaard A, Sondergaard A. Inverse cutting of posterior lamellar corneal grafts by a femtosecond laser. *Open Ophthalmol J* 2012;6:19–22.
- [72] Liu YC, Teo EP, Adnan KB, et al. Endothelial approach ultrathin corneal grafts prepared by femtosecond laser for Descemet stripping endothelial keratoplasty. *Invest Ophthalmol Vis Sci* 2014;55(12):8393–401.
- [73] Murta JN, Rosa AM, Quadrado MJ, et al. Combined use of a femtosecond laser and a microkeratome in obtaining thin grafts for Descemet stripping automated endothelial keratoplasty: an eye bank study. *Eur J Ophthalmol* 2013;23(4):584–9.
- [74] Rosa AM, Silva MF, Quadrado MJ, et al. Femtosecond laser and microkeratome-assisted Descemet stripping endothelial keratoplasty: first clinical results. *Br J Ophthalmol* 2013;97(9):1104–7.
- [75] Muijzer MB, van Luijk CM, van den Bogaerd AJ, et al. Prospective evaluation of clinical outcomes between pre-cut corneal grafts prepared using a manual or automated technique: with one-year follow-up. *Acta Ophthalmol* 2019;97(7):714–20.
- [76] Mootha VV, Heck E, Verity SM, et al. Comparative study of descemet stripping automated endothelial keratoplasty donor preparation by Moria CBm microkeratome, horizon microkeratome, and Intralase FS60. *Cornea* 2011;30(3):320–4.
- [77] Cheng YY, Schouten JS, Tahzib NG, et al. Efficacy and safety of femtosecond laser-assisted corneal endothelial keratoplasty: a randomized multicenter clinical trial. *Transplantation* 2009;88(11):1294–302.
- [78] Kanavi MR, Chamani T, Kheiri B, Javadi MA. Single versus double pass technique for preparation of ultrathin Descemet's stripping automated endothelial keratoplasty tissues from donated whole eyes. *Cell Tissue Bank* 2018;19(4):623–8.
- [79] Sharma N, Hussain AY, Nagpal R, et al. Microkeratome-assisted ultrathin Descemet's stripping automated endothelial keratoplasty: A randomized trial comparing single-pass versus double-pass technique. *Indian J Ophthalmol* 2019;67(8):1289–94.
- [80] Terry MA, Shamie N, Chen ES, et al. Precut tissue for Descemet's stripping automated endothelial keratoplasty: vision, astigmatism, and endothelial survival. *Ophthalmology* 2009;116(2):248–56.
- [81] Terry MA. Endothelial keratoplasty: a comparison of complication rates and endothelial survival between pre-cut tissue and surgeon-cut tissue by a single DSAEK surgeon. *Trans Am Ophthalmol Soc* 2009;107:184–91.
- [82] Saethre M, Krekling ED, Drolsum L. Lower risk of graft dislocation applying organ cultured corneas compared with cold short-term cultured corneas during DSAEK surgery. *Eye (Lond)* 2020;34(4):711–6.
- [83] Rosenwasser GO, Szczotka-Flynn LB, Ayala AR, et al. Effect of cornea preservation time on success of Descemet stripping automated endothelial keratoplasty: a randomized clinical trial. *JAMA Ophthalmol* 2017;135(12):1401–9.
- [84] Terry MA, Shamie N, Straiko MD, et al. Endothelial keratoplasty: the relationship between donor tissue storage time and donor endothelial survival. *Ophthalmology* 2011;118(1):36–40.
- [85] Ragunathan S, Ivarsen A, Nielsen K, Hjortdal J. Comparison of organ cultured pre-cut corneas versus surgeon-cut corneas for Descemet's stripping automated endothelial keratoplasty. *Cell Tissue Bank* 2014;15(4):573–8.
- [86] Madzak A, Hjortdal J. Outcome of human donor corneas stored for more than 4 weeks. *Cornea* 2018;37(10):1232–6.
- [87] Dickman MM, Kruit PJ, Remeijer L, et al. A randomized multicenter clinical trial of ultrathin Descemet stripping automated endothelial keratoplasty (DSAEK) versus DSAEK. *Ophthalmology* 2016;123(11):2276–84.
- [88] Chamberlain W, Lin CC, Austin A, et al. Descemet endothelial thickness comparison trial: a randomized trial comparing ultrathin Descemet stripping automated endothelial keratoplasty with Descemet membrane endothelial keratoplasty. *Ophthalmology* 2019;126(1):19–26.
- [89] Dickman MM, Dunker SL, Kruit PJ, et al. Quality of vision after ultrathin Descemet stripping automated endothelial keratoplasty: a multicentre randomized clinical trial. *Acta Ophthalmol* 2019;97(4):e671–2.
- [90] Oellerich S, Baydoun L, Peraza-Nieves J, et al. Multicenter study of 6-month clinical outcomes after Descemet membrane endothelial keratoplasty. *Cornea* 2017;36(12):1467–76.
- [91] Kurji KH, Cheung YY, Eslani M, et al. Comparison of visual acuity outcomes between nanothin Descemet stripping automated

- endothelial keratoplasty and Descemet membrane endothelial keratoplasty. *Cornea* 2018;37(10):1226–31.
- [92] Terry MA, Straiko MD, Goshe JM, et al. Endothelial keratoplasty: prospective, randomized, masked clinical trial comparing an injector with forceps for tissue insertion. *Am J Ophthalmol* 2013;156(1):61–68.e3.
- [93] Price MO, Gorovoy M, Benetz BA, et al. Descemet's stripping automated endothelial keratoplasty outcomes compared with penetrating keratoplasty from the Cornea Donor Study. *Ophthalmology* 2010;117(3):438–44.
- [94] Soma T, Koh S, Oie Y, et al. Clinical evaluation of a newly developed graft inserter (NS Endo-Inserter) for Descemet stripping automated endothelial keratoplasty. *Clin Ophthalmol* 2019;13:43–8.
- [95] Khan SN, Shiakolas PS, Mootha VV. Descemet's stripping automated endothelial keratoplasty tissue insertion devices. *J Ophthalmic Vis Res* 2015;10(4):461–8.
- [96] Acar BT, Muftuoglu O, Acar S. Comparison of sulfur hexafluoride and air for donor attachment in Descemet stripping endothelial keratoplasty in patients with pseudophakic bullous keratopathy. *Cornea* 2014;33(3):219–22.
- [97] Marques RE, Guerra PS, Sousa DC, et al. Sulfur hexafluoride 20% versus air 100% for anterior chamber tamponade in DMEK: a meta-analysis. *Cornea* 2018;37(6):691–7.
- [98] Vaddavalli PK, Diakonis VF, Canto AP, et al. Factors affecting DSAEK graft lenticle adhesion: an in vitro experimental study. *Cornea* 2014;33(6):551–4.
- [99] Bhogal MS, Angunawela RI, Bilotti E, et al. Theoretical, experimental, and optical coherence tomography (OCT) studies of graft apposition and adhesion in Descemet stripping automated endothelial keratoplasty (DSAEK). *Invest Ophthalmol Vis Sci* 2012;53(7):3839–46.
- [100] Moshirfar M, Lependu MT, Church D, Neuffer MC. In vivo and in vitro analysis of topographic changes secondary to DSAEK venting incisions. *Clin Ophthalmol* 2011;5:1195–9.
- [101] Hovlykke M, Ivarsen A, Hjortdal J. Venting incisions in DSAEK: implications for astigmatism, aberrations, visual acuity, and graft detachment. *Graefes Arch Clin Exp Ophthalmol* 2015;253(9):1419–24.
- Les différentes techniques de préparation du greffon lors de la DMEK**
- [102] Melles GRJ, Ong TS, Ververs B, van der Wees J. Descemet membrane endothelial keratoplasty (DMEK). *Cornea* 2006;25(8):987–90.
- [103] Droutsas K, Ham L, Dapena I, et al. Visual acuity following Descemet-membrane endothelial keratoplasty (DMEK): first 100 cases operated on for Fuchs endothelial dystrophy. *Klin Monatsbl Augenheilkd* 2010;227(6):467–77.
- [104] Cursiefen C, Kruse FE. DMEK: Descemet membrane endothelial keratoplasty. *Ophthalmol Z Dtsch Ophthalmol Ges* 2010;107(4):370–6.
- [105] Tourtas T, Laaser K, Bachmann BO, et al. Descemet membrane endothelial keratoplasty versus Descemet stripping automated endothelial keratoplasty. *Am J Ophthalmol* 2012;153(6):1082. 90.e2.
- [106] Tong CM, Melles GRJ. Where is endothelial keratoplasty going: from Descemet stripping (automated) endothelial keratoplasty to Descemet membrane endothelial keratoplasty to Descemet membrane endothelial transfer? *Can J Ophthalmol* 2012;47(3):197–200.
- [107] Hamzaoglu EC, Straiko MD, Mayko ZM, et al. The first 100 eyes of standardized Descemet stripping automated endothelial keratoplasty versus standardized Descemet membrane endothelial keratoplasty. *Ophthalmology* 2015;122(11):2193–9.
- [108] Droutsas K, Lazaridis A, Papaconstantinou D, et al. Visual outcomes after Descemet membrane endothelial keratoplasty versus Descemet stripping automated endothelial keratoplasty—comparison of specific matched pairs. *Cornea* 2016;35(6):765–71.
- [109] Kruse FE, Schrehardt US, Tourtas T. Optimizing outcomes with Descemet's membrane endothelial keratoplasty. *Curr Opin Ophthalmol* 2014;25(4):325–34.
- [110] Tenkman LR, Price FW, Price MO. Descemet membrane endothelial keratoplasty donor preparation: navigating challenges and improving efficiency. *Cornea* 2014;33(3):319–25.
- [111] Ham L, Dapena I, van Luijk C, et al. Descemet membrane endothelial keratoplasty (DMEK) for Fuchs endothelial dystrophy: review of the first 50 consecutive cases. *Eye Lond Engl* 2009;23(10):1990–8.
- [112] Dapena I, Ham L, Melles GRJ. Endothelial keratoplasty: DSEK/DSAEK or DMEK- -the thinner the better? *Curr Opin Ophthalmol* 2009;20(4):299–307.
- [113] Koh S, Maeda N, Nakagawa T, et al. Characteristic higher-order aberrations of the anterior and posterior corneal surfaces in 3 corneal transplantation techniques. *Am J Ophthalmol* 2012;153(2):284. 90.e1.
- [114] Dapena I, Ham L, Droutsas K, et al. Learning curve in Descemet's membrane endothelial keratoplasty: first series of 135 consecutive cases. *Ophthalmology* 2011;118(11):2147–54.
- [115] Price MO, Price FW. Descemet's membrane endothelial keratoplasty surgery: update on the evidence and hurdles to acceptance. *Curr Opin Ophthalmol* 2013;24(4):329–35.
- [116] Rickmann A, Wahl S, Hofmann N, et al. Precut DMEK using dextran-containing storage medium is equivalent to conventional DMEK : a prospective pilot study. *Cornea* 2019;38(1):24–9.
- [117] Laaser K, Bachmann BO, Horn FK, et al. Donor tissue culture conditions and outcome after Descemet membrane endothelial keratoplasty. *Am J Ophthalmol* 2011;151(6):1007. 18.e2.
- [118] Yoeruek E, Hofmann J, Bartz-Schmidt KU. Comparison of swollen and dextran deswollen organ-cultured corneas for Descemet membrane dissection preparation: histological and ultrastructural findings. *Invest Ophthalmol Vis Sci* 2013;54(13):8036–40.
- [119] Gorovoy IR, Cui QN, Gorovoy MS. Donor tissue characteristics in preparation of DMEK grafts. *Cornea* 2014;33(7):683–5.
- [120] Greiner MA, Rixen JJ, Wagoner MD, et al. Diabetes mellitus increases risk of unsuccessful graft preparation in Descemet membrane endothelial keratoplasty: a multicenter study. *Cornea* 2014;33(11):1129–33.
- [121] Birbal RS, Sikder S, Lie JT, et al. Donor tissue preparation for descemet membrane endothelial keratoplasty: an updated review. *Cornea* 2018;37(1):128–35.
- [122] Busin M, Scoria V, Patel AK, et al. Pneumatic dissection and storage of donor endothelial tissue for Descemet's membrane endothelial keratoplasty: a novel technique. *Ophthalmology* 2010;117(8):1517–20.
- [123] Ruzza A, Parekh M, Salvalaio G, et al. Bubble technique for Descemet membrane endothelial keratoplasty tissue preparation in an eye bank: air or liquid? *Acta Ophthalmol (Copenh)* 2015;93(2):e129–34.
- [124] Venzano D, Pagani P, Randazzo N, et al. Descemet membrane air-bubble separation in donor corneas. *J Cataract Refract Surg* 2010;36(12):2022–7.
- [125] Zarei-Ghanavati S, Khakshoor H, Zarei-Ghanavati M. Reverse big bubble: a new technique for preparing donor tissue of Descemet membrane endothelial keratoplasty. *Br J Ophthalmol* 2010;94(8):1110–1.
- [126] Zarei-Ghanavati S, Zarei-Ghanavati M, Ramirez-Miranda A. Air-assisted donor preparation for DMEK. *J Cataract Refract Surg* 2011;37(7):1372. author reply 1372.
- [127] Muraine M, Guedry J, He Z, et al. Novel technique for the preparation of corneal grafts for Descemet membrane endothelial keratoplasty. *Am J Ophthalmol* 2013;156(5):851–9.
- [128] Kruse FE, Laaser K, Cursiefen C, et al. A stepwise approach to donor preparation and insertion increases safety and outcome of Descemet membrane endothelial keratoplasty. *Cornea* 2011;30(5):580–7.
- [129] Guerra FP, Anshu A, Price MO, et al. Descemet's membrane endothelial keratoplasty: prospective study of 1-year visual outcomes, graft survival, and endothelial cell loss. *Ophthalmology* 2011;118(12):2368–73.
- [130] Price MO, Giebel AW, Fairchild KM, Price FW. Descemet's membrane endothelial keratoplasty: prospective multicenter study of visual and refractive outcomes and endothelial survival. *Ophthalmology* 2009;116(12):2361–8.
- [131] Brissette A, Conlon R, Teichman JC, et al. Evaluation of a new technique for preparation of endothelial grafts for Descemet membrane endothelial keratoplasty. *Cornea* 2015;34(5):557–9.
- [132] Groeneveld-van Beek EA, Lie JT, van der Wees J, et al. Standardized “no-touch” donor tissue preparation for DALK and

- DMEK : harvesting undamaged anterior and posterior transplants from the same donor cornea. *Acta Ophthalmol (Copenh)* 2013;91(2):145–50.
- [133] Schlötzer-Schrehardt U, Bachmann BO, Tourtas T, et al. Reproducibility of graft preparations in Descemet's membrane endothelial keratoplasty. *Ophthalmology* 2013;120(9):1769–77.
- [134] Studeny P, Farkas A, Vokrojova M, et al. Descemet membrane endothelial keratoplasty with a stromal rim (DMEK-S). *Br J Ophthalmol* 2010;94(7):909–14.
- [135] He Z, Gueudry J, Toubeau D, et al. Endothelial quality of eye bank-prestripped DMEK prepared form organ-cultured corneas with the Muraine technique. *Cell Tissue Bank* 2018;19(4):705–16.
- [136] Krabcova I, Studeny P, Jirsova K. Endothelial quality of pre-cut posterior corneal lamellae for Descemet membrane endothelial keratoplasty with a stromal rim (DMEK-S) : two-year outcome of manual preparation in an ocular tissue bank. *Cell Tissue Bank* 2013;14(2):325–31.
- [137] Salvalaio G, Parekh M, Ruzza A, et al. DMEK lenticule preparation from donor corneas using a novel "SubHyS" technique followed by anterior corneal dissection. *Br J Ophthalmol* 2014;98(8):1120–5.
- [138] Szurman P, Januschowski K, Rickmann A, et al. Novel liquid bubble dissection technique for DMEK lenticule preparation. *Graefes Arch Clin Exp Ophthalmol Albrecht Von Graefes Arch Klin Exp Ophthalmol* 2016;254(9):1819–23.
- [139] Tan TE, Devarajan K, Seah XY, et al. Lamellar dissection technique for descemet membrane endothelial keratoplasty graft preparation. *Cornea* 2020;39(1):23–9.
- Une évolution récente dans le développement des greffes endothéliales : la mise au point et la diffusion de greffons prêts à l'emploi**
- [140] Zhu Z, Rife L, Yiu S, et al. Technique for preparation of the corneal endothelium-Descemet membrane complex for transplantation. *Cornea* 2006;25(6):705–8.
- [141] Terry MA. Endothelial keratoplasty: a comparison of complication rates and endothelial survival between pre-cut tissue and surgeon-cut tissue by a single DSAEK surgeon. *Trans Am Ophthalmol Soc* 2009;107:184–91.
- [142] Regnier M, Auxenfans C, Maucourt-Boulch D, et al. Eye bank prepared versus surgeon cut endothelial graft tissue for Descemet membrane endothelial keratoplasty: An observational study. *Medicine (Baltimore)* 2017;96(19). e6885.
- [143] Rickmann A, Wahl S, Hofmann N, et al. Precut DMEK using dextran-containing storage medium is equivalent to conventional DMEK : a prospective pilot study. *Cornea* 2019;38(1):24–9.
- [144] Varadaraj V, Woreta FA, Stoeger CG, et al. Surgeon preference for endothelial keratoplasty techniques. *Cornea* 2020;39(1):2–7.
- [145] Parekh M, Salvalaio G, Ruzza A, et al. Posterior lamellar graft preparation: a prospective review from an eye bank on current and future aspects. *J Ophthalmol* 2013;2013. 769860.
- [146] Ragunathan S, Ivarsen A, Nielsen K, Hjortdal J. Comparison of organ cultured pre-cut corneas versus surgeon-cut corneas for Descemet's stripping automated endothelial keratoplasty. *Cell Tissue Bank* 2014;15(4):573–8.
- [147] Nelson BA, Ritenour RJ. Tissue quality of eye-bank-prepared pre-cut corneas for Descemet's stripping automated endothelial keratoplasty. *Can J Ophthalmol* 2014;49(1):92–5.
- [148] Nakagawa H, Inatomi T, Hieda O, et al. Clinical outcomes in Descemet stripping automated endothelial keratoplasty with internationally shipped pre-cut donor corneas. *Am J Ophthalmol* 2014;157(1):50. 5.e1.
- [149] Yamazoe K, Yamazoe K, Shinozaki N, Shimazaki J. Influence of the pre-cutting and overseas transportation of corneal grafts for Descemet stripping automated endothelial keratoplasty on donor endothelial cell loss. *Cornea* 2013;32(6):741–4.
- [150] Terry MA, Shamie N, Chen ES, et al. Precut tissue for Descemet's stripping automated endothelial keratoplasty: vision, astigmatism, and endothelial survival. *Ophthalmology* 2009;116(2):248–56.
- [151] Price MO, Price FW, Stoeger C, et al. Central thickness variation in pre-cut DSAEK donor grafts. *J Cataract Refract Surg* 2008;34(9):1423–4.
- [152] Kitzmann AS, Goins KM, Reed C, et al. Eye bank survey of surgeons using pre-cut donor tissue for Descemet stripping automated endothelial keratoplasty. *Cornea* 2008;27(6):634–9.
- [153] Price MO, Baig KM, Brubaker JW, Price FW. Randomized, prospective comparison of pre-cut vs surgeon-dissected grafts for descemet stripping automated endothelial keratoplasty. *Am J Ophthalmol* 2008;146(1):36–41.
- [154] Chen ES, Terry MA, Shamie N, et al. Precut tissue in Descemet's stripping automated endothelial keratoplasty donor characteristics and early postoperative complications. *Ophthalmology* 2008;115(3):497–502.
- [155] Choulakian MY, Li JY, Ramos S, Mannis MJ. Single-pass microkeratome system for eye bank DSAEK tissue preparation: is stromal bed thickness predictable and reproducible ? *Cornea* 2016;35(1):95–9.
- [156] Bayyoud T, Röck D, Hofmann J, et al. Precut technique for Descemet's membrane endothelial keratoplasty, preparation and storage in organ culture. *Klin Monatsbl Augenheilkd* 2012;229(6):621–3.
- [157] Deng SX, Sanchez PJ, Chen L. Clinical outcomes of Descemet membrane endothelial keratoplasty using eye bank-prepared tissues. *Am J Ophthalmol* 2015;159(3):590–6.
- [158] He Z, Gueudry J, Toubeau D, et al. Endothelial quality of eye bank-prestripped DMEK prepared form organ-cultured corneas with the Muraine technique. *Cell Tissue Bank* 2018;19(4):705–16.
- [159] Kobayashi A, Yokogawa H, Mori N, Sugiyama K. Visualization of pre-cut DSAEK and pre-stripped DMEK donor corneas by intraoperative optical coherence tomography using the RESCAN 700. *BMC Ophthalmol* 2016;16:135.
- [160] Menzel-Severing J, Kruse FE, Tourtas T. Organ-cultured, prestripped donor tissue for DMEK surgery: clinical outcomes. *Br J Ophthalmol* 2017;101(8):1124–7.
- [161] Terry MA, Straiko MD, Veldman PB, et al. Standardized DMEK technique: reducing complications using prestripped tissue, novel glass injector, and sulfur hexafluoride (SF6) gas. *Cornea* 2015;34(8):845–52.
- [162] Barnes K, Chiang E, Chen C, et al. Comparison of tri-folded and scroll-based graft viability in preloaded Descemet membrane endothelial keratoplasty. *Cornea* 2019;38(3):392–6.
- [163] Busin M, Leon P, D'Angelo S, et al. Clinical outcomes of pre-loaded Descemet membrane endothelial keratoplasty grafts with endothelium tri-folded inwards. *Am J Ophthalmol* 2018;193:106–13.
- [164] Newman LR, DeMill DL, Zeidenweber DA, et al. Preloaded Descemet membrane endothelial keratoplasty donor tissue: surgical technique and early clinical results. *Cornea* 2018;37(8):981–6.
- [165] Newman LR, Tran KD, Odell K, et al. Minimizing endothelial cell loss caused by orientation stamps on preloaded Descemet membrane endothelial keratoplasty grafts. *Cornea* 2019;38(2):233–7.
- [166] Parekh M, Romano V, Ruzza A, et al. Culturing discarded peripheral human corneal endothelial cells from the tissues deemed for preloaded DMEK transplants. *Cornea* 2019;38(9):1175–81.
- [167] Parekh M, Ruzza A, Ferrari S, Ponzin D. Preservation of pre-loaded DMEK lenticules in dextran and non-dextran-based organ culture medium. *J Ophthalmol* 2016;2016. 5830835.
- [168] Parekh M, Ruzza A, Ferrari S, et al. Preloaded tissues for Descemet membrane endothelial keratoplasty. *Am J Ophthalmol* 2016;166:120–5.
- [169] Tran KD, Dye PK, Odell K, et al. Evaluation and quality assessment of prestripped, preloaded Descemet membrane endothelial keratoplasty grafts. *Cornea* 2017;36(4):484–90.
- [170] Wolle MA, DeMill DL, Johnson L, et al. Quantitative analysis of endothelial cell loss in preloaded descemet membrane endothelial keratoplasty grafts. *Cornea* 2017;36(11):1295–301.
- [171] Zeidenweber DA, Tran KD, Sales CS, et al. Prestained and pre-loaded DMEK grafts: an evaluation of tissue quality and stain retention. *Cornea* 2017;36(11):1402–7.
- [172] Heinzelmann S, Böhringer D, Eberwein P, et al. Graft dislocation and graft failure following Descemet membrane endothelial keratoplasty (DMEK) using pre-cut tissue: a retrospective cohort study. *Graefes Arch Clin Exp Ophthalmol Albrecht Von Graefes Arch Klin Exp Ophthalmol* 2017;255(1):127–33.

- [173] Romano V, Parekh M, Ruzza A, et al. Comparison of preservation and transportation protocols for preloaded Descemet membrane endothelial keratoplasty. *Br J Ophthalmol* 2018;102(4):549–55.
- Préparation de greffons endothéliaux dans les banques de cornées**
- [174] Parekh M, Ruzza A, Steger B, et al. Cross-country transportation efficacy and clinical outcomes of preloaded large-diameter ultrathin Descemet stripping automated endothelial keratoplasty grafts. *Cornea* 2019;38:30–4.
- [175] Fernandez MM, Afshari NA. Endothelial keratoplasty: from DLEK to DMEK. *Middle East Afr J Ophthalmol* 2010;17(1):5–8.
- [176] Ruzza A, Parekh M, Ferrari S, et al. Preloaded donor corneal lenticules in a new validated 3D printed smart storage glide for Descemet stripping automated endothelial keratoplasty. *Br J Ophthalmol* 2015;99(10):1388–95.
- [177] Feizi S. Corneal endothelial cell dysfunction: etiologies and management. *Ther Adv Ophthalmol* 2018;10. 2515841418815802.
- [178] Greenrod EB, Jones MNA, Kaye S, Larkin DF. Center and surgeon effect on outcomes of endothelial keratoplasty versus penetrating keratoplasty in the United Kingdom. *Am J Ophthalmol* 2014;158(5):957–66.
- [179] Parekh M, Baruzzo M, Favaro E, et al. Standardizing Descemet membrane endothelial keratoplasty graft preparation method in the eye bank—Experience of 527 Descemet membrane endothelial keratoplasty tissues. *Cornea* 2017;36(12):1458–66.
- [180] Yi CH, Lee DH, Chung ES, Chung TY. A comparison of posterior lamellar keratoplasty modalities: DLEK vs. DSEK. *Korean J Ophthalmol* 2010;24(4):195–200.
- [181] Price Jr FW, Price MO. Descemet's stripping with endothelial keratoplasty in 50 eyes: a refractive neutral corneal transplant. *J Refract Surg* 2005;21(4):339–45.
- [182] Gorovoy MS. Descemet-stripping automated endothelial keratoplasty. *Cornea* 2006;25(8):886–9.
- [183] Ruzza A, Parekh M, Salvalaio G, et al. Bubble technique for Descemet membrane endothelial keratoplasty tissue preparation in an eye bank: air or liquid? *Acta Ophthalmol* 2015;93(2):e129–34.
- [184] Busin M, Albé E. Does thickness matter: ultrathin Descemet stripping automated endothelial keratoplasty. *Curr Opin Ophthalmol* 2014;25(4):312–8.
- [185] Amato D, Oddone F, Nobile M, et al. Pre-cut donor tissue for Descemet stripping automated keratoplasty: anterior hinged lamella on versus off. *Br J Ophthalmol* 2010;94(4):519–22.
- [186] Melles GRJ, Ong TS, Ververs B, van der Wees J. Descemet membrane endothelial keratoplasty (DMEK). *Cornea* 2006;25(8):987–90.
- [187] Romano V, Parekh M, Ruzza A, et al. Comparison of preservation and transportation protocols for preloaded Descemet membrane endothelial keratoplasty. *Br J Ophthalmol* 2018;102(4):549–55.
- [188] Parekh M, Ruzza A, Romano V, et al. Descemet membrane endothelial keratoplasty learning curve for graft preparation in an eye bank using 645 donor corneas. *Cornea* 2018;37(6):767–71.
- [189] Parekh M, Ruzza A, Ferrari S, et al. Endothelium-in versus endothelium-out for Descemet membrane endothelial keratoplasty graft preparation and implantation. *Acta Ophthalmol* 2017;95(2):194–8.
- [190] Parekh M, Ruzza A, Ferrari S, et al. Preloaded tissues for Descemet membrane endothelial keratoplasty. *Am J Ophthalmol* 2016;166:120–5.
- [191] Busin M, Scorciva V, Patel AK, et al. Pneumatic dissection and storage of donor endothelial tissue for Descemet's membrane endothelial keratoplasty. *Ophthalmology* 2010;117(8):1517–20.
- [192] Barnes K, Chiang E, Chen C, et al. Comparison of tri-folded and scroll-based graft viability in preloaded Descemet membrane endothelial keratoplasty. *Cornea* 2019;38(3):392–6.
- [193] Droutsas K, Lazaridis A, Kymionis GD, et al. Comparison of endothelial cell loss and complications following DMEK with the use of three different graft injectors. *Eye (Lond)* 2018;32(1):19–25.