



Recipient Descemet Membrane Removal in Pseudo-Anterior Chamber After DALK With Retention of Donor Descemet Membrane

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Background

- Deep anterior lamellar keratoplasty (DALK) is largely used worldwide in the treatment of patients with ectasia and/or corneal stromal diseases with normal endothelium
- Main advantages over penetrating keratoplasty include reduced risk of endothelial allograft rejection and the benefits of a closed globe surgery
- Postoperative pseudo-anterior chamber can occur in up to 9% of DALK surgeries. Intraoperative perforation of recipient Descemet's membrane (DM) might be a main risk factor
- Management of pseudo-anterior chamber include clinical observation, air/gas intracameral injection and re-graft in recalcitrant cases if donor cornea had the endothelium removed
- Retention of donor DM allows the removal of recipient DM during the management of post DALK pseudo-anterior chamber

Purpose

To describe the outcomes of 5 patients that had undergone deep anterior lamellar keratoplasty (DALK) with retention of donor Descemet membrane (DM) during donor cornea preparation and were treated with recipient DM removal after presenting with pseudo-anterior chamber.

Methods

- Retrospective review of the records of patients that had undergone DALK with retention of donor DM at the Banco de Olhos de Sorocaba (BOS), a full care ophthalmology hospital in Brazil
- Transplants between January 2012 and August 2013
- Fourteen patients (14 eyes) that presented postoperatively with pseudo-anterior chamber requiring surgical intervention were identified

Methods

- All 14 cases were initially treated with intracameral injection of air or nonexpansible C_3F_8
- Five cases persisted after air/gas injection and underwent recipient DM removal.
- The following data were recorded for these 5 cases:
 - gender/age
 - DALK technique
 - time between DALK and pseudo-anterior chamber
 - time between pseudo-anterior chamber and DM removal
 - rate of graft failure
 - rate of graft rejection

Results

- All 5 patients were female
- Mean age was 21 ± 5.4 years
- DALK technique
 - Anwar's "Big Bubble" technique in 4 cases
 - Manual dissection in 1 case
 - Microperforation was noted during the surgery in 4 cases

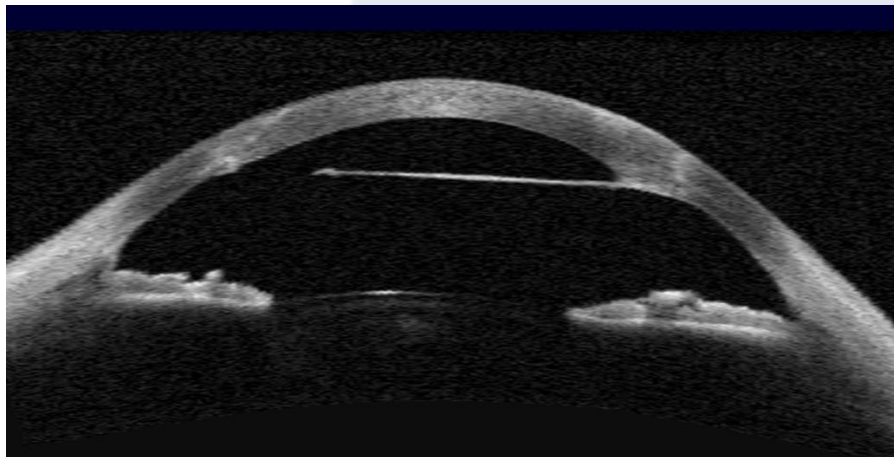


Fig 1: Anterior segment OCT showing pseudo-anterior chamber after DALK

Results

- Mean time between DALK and pseudo-anterior chamber presentation was 14 days (range 1 to 34 days)
- Three patients received C_3F_8 injection and 2 received air injection
- Mean time between air/gas injection and DM removal was 18.2 days (range 5 to 37 days)
- No case of primary graft failure
- Two patients presented graft rejection after DM removal. One of them developed secondary graft failure

Conclusion

- Persistent pseudo-anterior chamber is a possible complication of DALK and can be successfully managed by early recipient DM removal if donor DM was left intact
- Retention of donor DM allows surgeon to consider recipient DM removal in cases of pseudo-anterior chamber, avoiding a second graft. Donor DM retention might be considered preemptively when an increased risk of pseudo-anterior chamber is identified
- Conversely, it is not clear whether donor DM retention affects visual outcomes, risk of rejection, recipient DM adhesion and risk of pseudo-anterior chamber, in comparison to classic donor DM-off DALK procedure
- Further studies are required to evaluate pros and cons of donor DM retention

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