

Type 2 big bubble: a friend or foe?

Mohamed Bahgat Goweida

FRCOphth, FRCS(Glasg), PhD

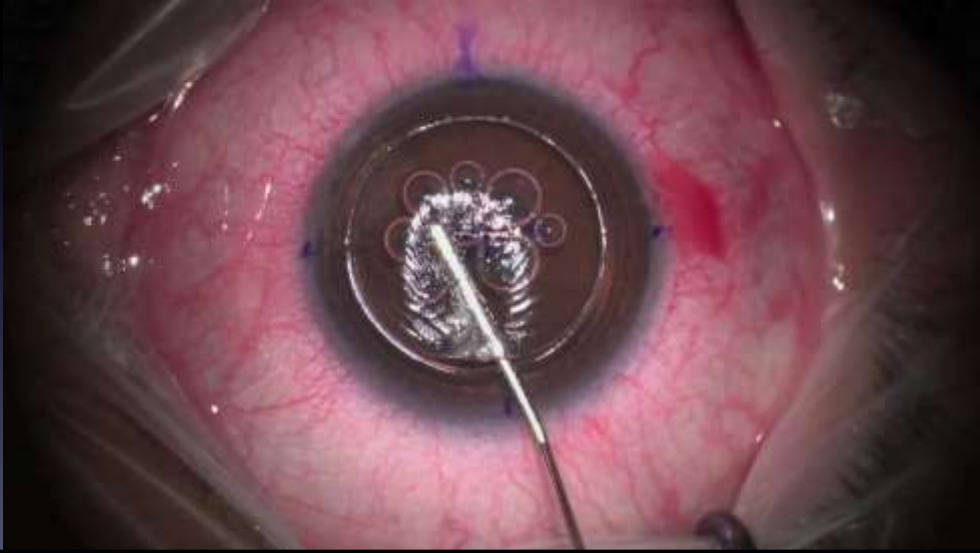
Consultant Cornea and External Eye Diseases

Assistant Professor, Alexandria University, Egypt

Types of Bubbles

- Type 1
 - Intrastromal
 - White margin
 - Extends to the trephination groove (less than 9 mm)
 - Covered with tough PDS
- Type 2
 - Between DM and stroma
 - Clear margin
 - Extends beyond the trephination groove (up to 10.5 mm)
 - Fragile, bursts on minimal increase in IC pressure
- Mixed Bubbles

Type 1 and 2 BB



Type 2 bubble

- Incidence:
 - 10%- 33%
- Risk factors:
 - Corneal scars
 - Deep stromal pathologies
 - old age ??
 - Advanced stromal disease ??
 - Goweida MB. Intraoperative review of different bubble types formed during BB DALK. Cornea 2015
 - Jinyang Li. Factors affecting formation of Type-1 and Type-2 Big Bubble during DALK. Current Eye Research 2019

Type 2 bubble

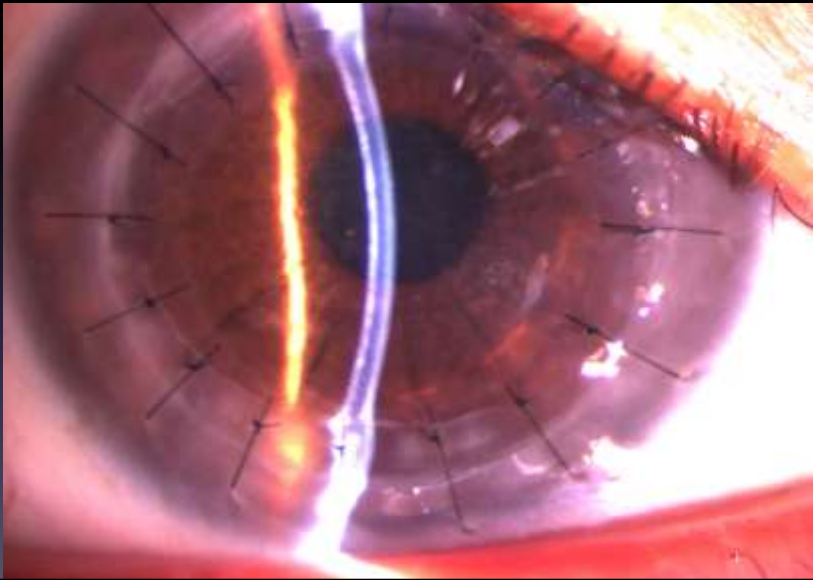
- Challenge:
 - Fragile, rupture on minimum pressure (bursting rather than microperforation)
 - Extends to the limbus
 - High incidence of double AC in the postoperative period
 - Goweida MB et al. Management of type 2 bubble formed during BB DALK. Cornea 2019
- Management:
 - Avoid opening the bubble and baring DM
 - Use one of the manual dissection techniques to reach the clear PDL (longer intraoperative time)

Macular dystrophy

Type 1 BB



Type 1 BB



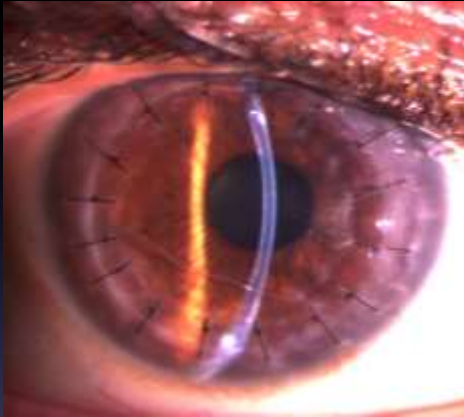
Type 2 BB



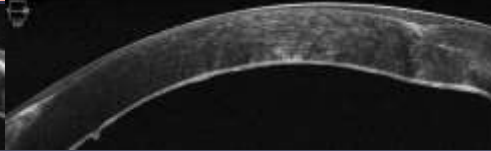
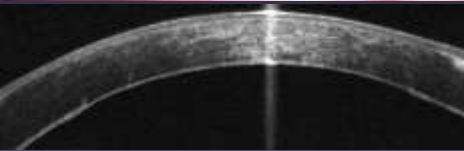
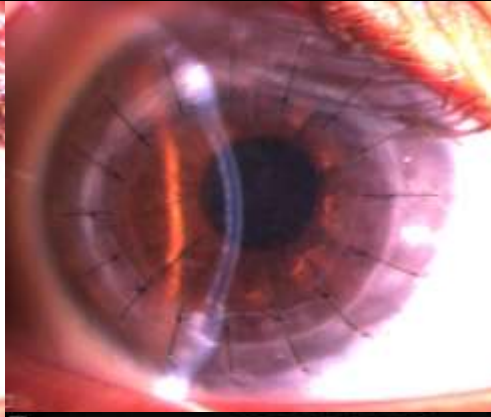
Mixed BB



DM baring



Type 1 BB



Take home message

- Type 1 BB is the preferred bubble after pneumodissection
- Type 2 BB is a surgical challenge that should be managed with one of the manual dissection techniques to avoid DM baring
- Central baring of DM can be carefully done in eyes with opaque PDL to achieve optimal visual results
- Macular corneal dystrophy is the only pathology where type 2 BB is desirable

THANK YOU

mbahgat@yahoo.com