

Pengaruh penggunaan cairan irigasi dingin terhadap ketebalan kornea dan jumlah suar bilik mata depan pasca fakoemulsifikasi = Effect of cooled intraocular irrigating solution on the central corneal thickness and anterior chamber flare after phacoemulsification

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Abstrak

Tujuan: Evaluasi pengaruh penggunaan cairan irigasi dingin pada fakoemulsifikasi terhadap ketebalan kornea dan jumlah suar bilik mata depan pasca bedah.

Tempat: Perjan Rumah Sakit Ciptomangunkusumo dan Jakarta Eye Center, Jakarta. Bahan dan cara: Prospektif, tersamar ganda, randomisasi pada 33 mata katarak senilis gradasi 3-4. Dilakukan fakoemulsifikasi menggunakan BSS® 10°C (n=16) atau BSS® suhu kamar (n=17) dengan prosedur dan terapi pasca bedah yang sama. Pra bedah, pasca bedah hari pertama dan hari ke-7 dilakukan pengukuran ketebalan kornea, jumlah suar dan tekanan intraokular, masing-masing dengan OrbscanTM, laser flare-meter Kowa FM-500, dan tonometer non-kontak. Parameter intrabedah; waktu fako efektif (EPT) dan besarnya tenaga ultrasonik(UIS) direkam dalam mesin fako. Subjek yang mengalami komplikasi intrabedah maupun pasca bedah dikeluarkan dari penelitian.

Hasil: Prabedah kedua kelompok memiliki karakteristik yang setara pada umur, gradasi katarak, ketebalan kornea, jumlah suar dan TIO. Terdapat perbedaan bermakna pada E. dan U/S. Pasca bedah hari pertama, ketebalan kornea pada kelompok BSSQ dingin $548,87 \pm 48,31 \mu\text{m}$, pada kelompok BSS® suhu kamar $582,47 \pm 35,48 \mu\text{m}$ ($p=0,022$). Ketebalan kornea hari ke-7 tidak berbeda bermakna. Tidak terdapat perbedaan bermakna jumlah suar sampai tindak lanjut hari ke-7, namun peningkatan jumlah suar pada kelompok BSS® dingin lebih sedikit dan telah mencapai nilai prabedah pada hari ke-7. Hasil pengukuran tekanan intraokular sesuai dengan pengukuran ketebalan kornea.

Simpulan: Cairan irigasi dingin dapat mempertahankan fungsi endotel kornea dan stabilitas sawar darah akueus, sehingga menghambat penambahan ketebalan kornea dan jumlah suar di bilik mata depan pasca fakoemulsifikasi.

.....Purpose: To evaluate the effect of cooled intraocular irrigating solution during phacoemulsification on postoperative central corneal thickness (CCT) and anterior chamber flare (AC flare).

Setting: Cipto Mangunkusumo Hospital and Jakarta Eye Center, Jakarta

Methods: In a prospective, double masked, randomized study, 33 eyes of third and fourth grade density cataract had phacoemulsification with irrigating solutions cooled to approximately 10°C (n=16) or at room temperature (n=17). Surgical procedure and postoperative therapy were otherwise identical in both groups. Intraoperative parameters; effective phaco time (EPT) and ultrasound energy (U/S) were recorded by phaco machine. Postoperative CCT, AC flare and intraocular pressure (IOP) were assessed respectively with Orbscan pachymetry, Kowa FM-500 laser flare-meter and non-contact tonometry on days 1 and 7. Complicated cases were excluded.

Results: Both groups were well matched characteristic in age, cataract density, preoperative CCT, AC flare and IOP. Intraoperative parameters were not different significantly. On the first postoperative day, CCT (cooled irrigation $548,87 \pm 48,31 \mu\text{m}$, control $582,47 \pm 35,48 \mu\text{m}$; $p=0,022$) was significantly lower in the group

with cooled irrigating solution. There was no significant difference in CCT on the 7th postoperative day. Despite no significant between-group difference in AC flare on any postoperative days, AC flare was lower in the group with cooled irrigating solution. Intraocular pressure measurement was well related to corneal thickness.

Conclusions: Cooled intraocular irrigating solution preserved corneal endothelial function and blood aqueous barrier, showed with reducing immediate postoperative CCT and AC flare.