Efek pemberian tetes mata hydroksypropyl-guar terhadap densitas sel goblet, stabilitas lapisan air mata, dan interleukin 6 pasca peritomi konjungtiva 360 derajat = The effect of hydroxypropyl-guar on goblet cell density, tear film stability, and interleukin 6 after conjunctival peritomy 360 degree

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Abstrak

Latar Belakang: Tindakan peritomi konjungtiva meningkatkan penanda inflamasi pada permukaan okular dan menyebabkan penurunan densitas sel goblet yang berimplikasi pada ketidakstabilan lapisan air mata. Pemberian HP-guar diharapkan mampu memperbaiki keadaan permukaan okular pasca peritomi konjungtiva 360° dibandingkan kontrol.
Tujuan: Untuk menilai efektivitas artificial tears HP-guar dalam melindungi permukaan okular pasien pasca peritomi konjungtiva 360°.
Desain: Penelitian prospektif, uji klinis open label.
Hasil: Terdapat 23 subjek yang berpartisipasi dalam penelitian ini. Kelompok HP-guar menunjukkan hasil yang lebih baik dibandingkan dengan kelompok kontrol secara signifikan dalam hal TFBUT (9,43+2,20 vs 5,95+1,93, p=0,001), densitas sel goblet (68,73 ±97,49 vs 10,00 ± 22,09,p =0,012), skor epitel (1,73±1.00 vs 4,55±1.57, p=0.000). Tidak terdapat perbedaan bermakna antara kedua kelompok dalam hal skor lissamine green (1,33±1,55 vs 2,18±1,72, p=0,146) dan IL-6 air mata (60,32 ±17,86 vs 57,44 ±24,67, p=0,782).
Kesimpulan: Pemberian HP-guar lebih memperbaiki nilai TFBUT, densitas sel goblet dan epitel konjungtiva dibandingkan kontrol. HP-guar tidak berpengaruh terhadap skor lissamine green dan kadar IL-6 air mata.
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Background: Conjunctival peritomy, a step commonly done in ocular surgery, increases ocular surface inflammation and decreases goblet cell density (GCD) that could lead to tear film instability. Hydroxypropyl-guar (HP-guar) is expected to improve ocular surface related to conjunctival peritomy.
Purpose: To evaluate HP-guar effectiveness in protecting ocular surface after conjunctival peritomy.
Methods: Randomized controlled trial, open label study, on subjects underwent scleral buckling surgery.
Result: Twenty-three participants were involved in this study. The HP-guar group showed statistically better results compared to the control group regarding Tear-film break-up time (TFBUT) (9,43±2,20 vs 5,95±1,93, p=0.001), GCD (68,73 ±97,49 vs 10,00 ± 22,09,p =0.012), and epithelial score (1.73±1.00 vs 4.55±1.57, p=0.000). No statistical differences were found between groups in lissamine green score (1.33±1.55 vs 2.18±1.72, p=0.146) and IL-6 tear fluid level (60.32 ±17.86 vs 57.44 ±24.67, p=0.782).
Conclusion: The addition of HP-Guar to regular treatment after conjunctival peritomy increases TFBUT, goblet cell density, and improves conjunctival epithelial cells. HPguar has no effect on ocular surface inflammation.