

# Perbandingan Kadar Transforming Growth Factor Beta-2 dan -3 (TGF-2 Dan TGF-3) pada Proliferative Vitreoretinopathy (Pvr) Grade A dan B = Comparison of Transforming Growth Factor Beta-2 And -3 (TGF- $\hat{I}^2$ and TGF- $\hat{I}^3$ ) Level between Proliveratife Vitreoretinopathy Grade A and B

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## Abstrak

Proliferative vitreoretinopathy (PVR) pada ablasio retina rhegmatogen (ARR) menurunkan tingkat keberhasilan anatomis dan fungsional. Transforming growth factor- $\hat{I}^2$  (TGF- $\hat{I}^2$ ) merupakan pro-fibrotik yang berperan penting dan dapat menjadi target terapi dan masih belum ada data mengenai TGF- $\hat{I}^3$  pada PVR. Penelitian ini bertujuan menguji kadar TGF- $\hat{I}^2$  dan TGF- $\hat{I}^3$  pada kasus PVR A dan B. Penelitian ini berdesain potong lintang pada pasien ARR PVR A dan B yang menjalani vitrektomi di RSCM Kirana. Sampel vitreus diambil intra-operasi dan diperiksa di protein total, TGF- $\hat{I}^2$  dan TGF- $\hat{I}^3$  dengan metode ELISA. Didapatkan 20 sampel; 10 mata untuk PVR A dan 10 untuk PVR B. Tidak didapatkan perbedaan bermakna untuk karakteristik kedua grup maupun berdasarkan TGF- $\hat{I}^2$  dan TGF- $\hat{I}^3$ . Secara umum didapatkan level TGF- $\hat{I}^2$  yang lebih tinggi pada PVR A dan B namun tidak terdapat perbedaan signifikan ( $p > 0,05$ ). Didapatkan korelasi negatif (Spearman  $r = -0,468$ ) antara TGF- $\hat{I}^2$  dengan TGF- $\hat{I}^3$  pada seluruh grup PVR ( $p = 0,037$ ) namun tidak didapatkan korelasi yang signifikan per grup PVR. Tidak ditemukan perbedaan bermakna antara TGF- $\hat{I}^2$  dan TGF- $\hat{I}^3$  dengan primary attachment rate. Tidak didapatkan perbedaan bermakna antara TGF- $\hat{I}^2$  dan 3 pada ARR yang terjadi sebelum atau sesudah 14 hari namun ditemukan tren rasio TGF- $\hat{I}^2$ /protein total yang semakin rendah

14 hari pasca ARR Studi ini merupakan studi pertama yang membandingkan kadar TGF- $\hat{I}^2$  dan TGF- $\hat{I}^3$  pada pasien dengan PVR A dan B. Secara tren, ditemukan kadar TGF- $\hat{I}^2$  yang lebih tinggi pada ARR dengan PVR B dibanding A dan kadar TGF- $\hat{I}^3$  yang lebih rendah pada ARR dengan PVR B dibanding A.

.....Proliferative vitreoretinopathy (PVR) in rhegmatogenous retinal detachment (RRD) reduces anatomical and functional success rate. Transforming growth factor- $\hat{I}^2$  (TGF- $\hat{I}^2$ ) is a pro-fibrotic that plays an important role and can be a therapeutic target and there is still no data on TGF- $\hat{I}^3$  in PVR. This study aims to examine the levels of TGF- $\hat{I}^2$  and TGF- $\hat{I}^3$  in cases of PVR A and B. This study used cross-sectional design in ARR PVR A and B patients who underwent vitrectomy at RSCM Kirana. Vitreous samples were taken intra-operatively and examined for total protein, TGF- $\hat{I}^2$  and TGF- $\hat{I}^3$  using ELISA. A total of 20 samples were obtained; each 10 eyes for PVR A and 10 for PVR B. There were no significant differences in the characteristics of the two groups or based on TGF- $\hat{I}^2$  and TGF- $\hat{I}^3$ . In general, higher TGF- $\hat{I}^2$  levels were found in PVR A and B but there was no significant difference ( $p > 0.05$ ). A negative correlation (Spearman  $r = 0.468$ ) was found between TGF- $\hat{I}^2$  and TGF- $\hat{I}^3$  in all PVR groups ( $p = 0.037$ ) but no significant correlation was found per PVR group. There was no significant difference between TGF- $\hat{I}^2$  and TGF- $\hat{I}^3$  with primary attachment rate. There was no significant difference between TGF- $\hat{I}^2$  and 3 in ARR that occurred before or

after 14 days, but a trend was found in the ratio of TGF- $\beta$ <sup>2</sup>/total protein that was getting lower 14 days after ARR. This study is the first study to compare TGF- $\beta$ <sup>2</sup> and TGF- $\beta$ <sup>3</sup> levels in patients with PVR A and B. In terms of trend, higher TGF- $\beta$ <sup>2</sup> levels were found in ARR with PVR B compared to A and lower TGF- $\beta$ <sup>3</sup> levels in ARR with PVR B compared to A.