

ABSTRACT

CORRELATION BETWEEN EXPRESSION OF TOLL LIKE RECEPTOR 4 AND GLOMERULOSCLEROSIS IN 5/6 NEPHRECTOMY IN MICE

Saskia Octariza Ruslim¹, Nur Arfian², Dian Prasetyo²

Faculty of Medicine, Universitas Gadjah Mada,

Yogyakarta, Indonesia

¹Undergraduate programme Faculty of Medicine Gadjah Mada University

²Department of Anatomy, Embriology and Antropology Faculty od Medicine Gadjah Mada University

BACKGROUND: CKD become burden for the global public health because of its prevalence and consequence of the disease, such as cardiovascular disease, end stage renal disease, and also premature death. Recently toll like receptor 4 has been found to have correlation with fibrosis in several organs, it may indicate TLR 4 has role in glomerulosclerosis since glomerulus also express TLR 4.

PURPOSE: To elucidate the correlation between toll like receptor 4 expression with glomerulosclerosis

METHOD: We performed 5/6 subtotal nephrectomy in male strain Swiss mice to induce glomerulosclerosis. Sham operation was performed to control group (SO) (n=5). The mice were sacrificed in day 7 (D7 5/6 SN; n=5) and day 28 (D28 5/6 SN; n=5) after 5/6 subtotal nephrectomy procedure. Glomerulosclerosis score was quatified based on Periodic Acid Schiff (PAS) staining. Toll like receptor 4 expression was measured using RT-PCR after the kidney being extracted.

RESULT: 5/6 Subtotal nephrectomy (5/6 SN) induced an increase of glomerulosclerosis score in D7 5/6 SN and D28 5/6 SN, followed by increase of TLR4 expression in D7 5/6 SN and decrease of its expression in D28 5/6 SN.

CONCLUSION: Glomerulosclerosis score has positive strong correlation in D7 but not significant in D28

KEYWORDS: Chronic Kidney Disease, Glomerulosclerosis, TLR 4, mice, 5/6 subtotal nephrectomy