INTISARI

Efek Vitamin D Terhadap Cedera dan Proliferasi Sel Epitel Tubulus pada Model *Unilateral Ureteral Obstruction* pada Mencit

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Latar Belakang: Penyakit Ginjal Kronis (PGK) adalah masalah kesehatan dunia. Prevalensi yang semakin meningkat, tingginya biaya, dan buruknya prognosis PGK merupakan masalah yang menjadi sorotan para praktisi kesehatan. Dewasa ini, vitamin D telah diketahui sebagai agen antiinflamasi yang dapat mengurangi kerusakan ginjal.

Tujuan: Mengkaji efek pemberian vitamin D dalam mengurangi cedera dan proliferasi sel epitel tubulus pada mencit yang diinduksi obstruksi ureter unilateral

Metode: Obstruksi ureter unilateral dilakukan untuk menginduksi cedera dan proliferasi sel pada mencit swiss jantan (3 bulan). Mencit dibagi menjadi 3 kelompok, operasi sham (SO), obstruksi dan terminasi pada hari ke-14 (UUO 14), dan obstruksi dengan terapi vitamin D (UUO VD). SO dilakukan dengan membuka abdomen tanpa dilakukan ligasi ureter. Dilakukan pengecatan *Periodic Acid Schiff* (PAS) untuk mengamati cedera tubulus dan *Proliferating Cell Nuclear Antibody* (PCNA)untuk mengamati proliferasi sel. Data dianalisis menggunakan software SPSS versi 21.

Hasil: UUO menginduksi cedera dan proliferasi sel epitel tubulus secara signifikan ($p<0,01$). Vitamin D mengurangi cedera tubulus dan proliferasi sel secara signifikan ($p<0,05$). Terdapat korelasi positif kuat antara cedera epitel tubulus dan proliferasi sel ($r=0,734$; $p<0,01$).

Kesimpulan: vitamin D mengurangi cedera dan proliferasi sel epitel tubulus. Terdapat korelasi positif antara skor cedera tubulus dengan proliferasi sel epitel tubulus.

Kata kunci: vitamin D, cedera epitel tubulus, proliferasi sel epitel, obstruksi ureter unilateral.

ABSTRACT

Effect Of Vitamin D To Tubular Cell Injury And Proliferation In Unilateral Ureteral Obstruction Model In Mice

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Backgroud: Chronic Kidney Disease (CKD) is a worldwide health problem. Increasing prevalence, higher cost, and bad prognosis of CKD are some problems that become attention to clinician. Recently, vitamin D has known as antiinflammatory agent that attenuates kidney damage.

Purpose: To elucidate the effect of vitamin D decreasing tubular cell injury and proliferation in unilateral ureteral obstruction model in mice.

Method: We performed unilateral ureteral obstruction (UUO) to induce tubular cell injury and proliferation in male swiss mice (3 month). The mice were divided into 3 groups, sham operation (SO), UUO and termination in day 14th (UUO 14), and UUO with vitamin D treatment (UUO VD). SO was performed by opening the abdomen without ureteral ligation. Then, We performed *Periodic Acid Schiff* (PAS) staining to observe tubular injury and *Proliferating Cell Nuclear Antibody* (PCNA) staining to observe cell proliferation. The data were analyzed using SPSS software version 21.

Result: UUO induced significant tubular cell injury and cell proliferation ($p<0,01$). Vitamin D decreased tubular cell injury and cell proliferation significantly ($p<0,05$). There was strong possitive correlation between tubular cell injury and cell proliferation ($r=0,734$; $p<0,01$).

Conclusion: Vitamin D attenuates tubular cell injury and proliferation. There is possitive correlation between tubular cell injury and cell proliferation.

Keywords: Vitamin D, tubular cell injury, tubular cell proliferation, Unilateral Ureteral Obstruction/UUO.