EFEKTIVITAS EKSTRAK ETANOL SELEDRI (*Apium graveolens L.*) TERHADAP KADAR UREUM DAN KREATININ TIKUS PUTIH (*Sprague dawley*) MODEL ⅝ SUBTOTAL NEFREKTOMI

ABSTRAK

CKD adalah kerusakan struktur atau fungsi ginjal dan/atau penurunan GFR kurang dari 60mL/min/1,73 m^2 selama minimal 3 bulan dan berlangsung progresif. CKD adalah proses kerusakan ginjal dengan etiologi beragam ditandai dengan peningkatan kadar penanda ginjal dalam serum. Penanda fungsi ginjal diantaranya ureum dan kreatinin yang jika meningkat kadarnya menandakan ginjal tidak mampu mempertahankan metabolismenya dan menunjukan penurunan fungsi ginjal yang progresif. Ekstrak etanol seledri (*Apium graveolens* L.) berfungsi sebagai antioksidan dan antiinflamasi yang berpotensi mencegah kerusakan ginjal pada CKD sehingga diduga dapat mencegah peningkatan kadar ureum dan kreatinin pada CKD. Penelitian ini bertujuan untuk mengetahui efek pemberian ekstrak etanol seledri dalam mencegah peningkatan kadar ureum dan kreatinin serum tikus putih (*Sprague dawley*) model 5/6 subtotal nefrektomi. Penelitian ini merupakan penelitian eksperimental dengan *post test only with control group design*. Dua puluh lima ekor tikus putih dibagi dalam 5 kelompok. Kelompok A: kelompok normal (SO, n=5), kelompok B: kelompok nefrektomi (SN, n=5), sebagai kontrol sakit, kelompok C, D, dan E adalah kelompok nefrektomi dan diberikan ekstrak etanol seledri 200 mg/kgBB, 250 mg/kgBB, dan 300 mg/kgBB 14 hari sebelum dan 21 hari setelah nefrektomi. Rerata kadar ureum kelompok A=31,25±2,75; B=55,25±7,81; C=53,00±7,62; D=45,00±5,48; E=45,50±5,07. Hasil uji *One Way* ANOVA ureum menunjukkan nilai p=0,000 (p<0,05). Rerata kadar kreatinin kelompok A=0,75±0,04; B=0,95±0,07; C=0,90±0,06; D=0,85±0,08; E=0,85±0,30. Hasil uji *One Way* ANOVA kreatinin menunjukkan nilai p=0,011 (p<0,05). Pemberian ekstrak etanol seledri (*Apium graveolens* L.) dapat mencegah peningkatan kadar ureum dan kreatinin serum tikus putih (*Sprague dawley*) model 5/6 subtotal nefrektomi.

Kata kunci: *Apium graveolens* L., kreatinin, seledri, ureum, 5/6 subtotal nefrektomi

THE EFFECT OF ETHANOL EXTRACT OF CELERY (Apium graveolens L.) TO UREUM AND CREATININE LEVELS ON 5/6 SUBTOTAL NEPHRECTOMY MODEL RATS (Sprague dawley)

ABSTRACT

Chronic Kidney Disease (CKD) is defined as kidney damage of structure or function and/or decreased Glomerular Filtration Rate (GFR) of less than 60 mL/min/1,73 m^2 for at least 3 months that continued progressively. CKD is a pathophysiological process with so many etiologies characterized by the increased of renal function markers levels which excreted in the urine. Renal function markers such as ureum and creatinine which when the levels are increase more than the normal levels, indicate that the renals are unable to maintain metabolism and show progressive decline in renal function. Ethanol extract of celery (Apium graveolens L.) has antioxidant and anti-inflammatory effect which has potential to prevent the progression of kidney damage in CKD so the increase of ureum and creatinine levels can be prevented. This study aimed to know the effect of celery ethanol extract (Apium graveolens L.) administration in preventing the increase of ureum and creatinine serum levels on 5/6 subtotal nephrectomy model rats (Sprague dawley).The method was an experimental study with post test only with control group design. Twenty five males of white rats were randomly assigned to 5 groups. Group A: normal rats (S0, n=5), group B: sick control (SN, n=5), group C (200 mg/kgBW ethanol extract of celery), group D (250 mg/kgBW), and group E (300 mg/kgBW). On the 15^{th} after celery extract or CMC was given, sham operation was performed in group A, while 5/6 subtotal nephrectomy was performed in group B, C, D, and E. Then the celery extract was given until the 21^{th} day after operation. The mean of ureum concentration in group A=31,25±2,75; B=55,25±7,81; C=53,00±7,62; D=45,00±5,48; E=45,50±5,07. One Way ANOVA test of ureum shows that significant differences between groups p=0,000 (p>0.05). The mean of creatinine concentration in group A=0,75±0,04; B=0,95±0,07; C=0,90±0,06; D=0,85±0,08; E=0,85±0,30. One Way ANOVA test of creatinine shows that significant differences between groups p=0,011 (p>0.05).Administration of ethanol extract of celery (Apium graveolens L.) can prevent the increase of ureum and creatinine serum levels in 5/6 subtotal nefrectomy rats models.

***Keywords**: Apium graveolens L., celery, creatinine, ureum, 5/6 subtotal nephrectomy*