

**THE EFFECT OF EXTRACT POMEGRANATE (*Punica granatum Linn*)  
ON BLOOD UREA NITROGEN (BUN) AND CREATININE SERUM IN  
WHITE RAT (*Rattus norvegicus*) ACUTE RENAL FAILURE PROCESS**

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**ABSTRACT**

Acute renal failure (ARF), is a nephron damage caused by presence acute tubular necrosis (ATN) with high morbidity and mortality. ARF is one of the common causes of illness and death in small animals, especially cat and dog. Pomegranate or *Punica granatum Linn* (PGL) is one of the plants studied for health, contain of polyphenols with punicalagin and ellagic acid main active ingredient used as an anti-inflammatory and antioxidant. The purpose of the research was to determine pomegranate extract effect in white rats (*Rattus Norvegicus*) as an animal model of acute renal failure to decrease blood urea nitrogen (BUN) and creatinine serum. Twenty four male rats two to three months old with 150-200 gram of body weight, that were grouped into four different treatments. P0 group was a control group with 0.3% CMC Na 2 ml given orally, P1group was given by 0.3% CMC Na 2 ml orally and gentamicin 80 mg/kg intraperitoneal, P2 and P3 groups were given by ellagic acid (EA) 60 mg/kg intraperitoneal and pomegranate extract (*Punica granatum linn*) 150 mg/kg intraperitoneal respectively in 0.3% CMC Na 2 ml in orally and gentamicin 80 mg/kg intraperitoneal. After seven days treatment, blood sample was taken through intracardiac and then, BUN and creatinine test using Berthelot and Jaffe methods. Based on the result of the analysis of variance (ANOVA) and Duncan range test obtain average value and standard deviation BUN levels of  $10.41 \pm 2.24$ ,  $120.08 \pm 44.87$ ,  $74.83 \pm 13.63$ ,  $38.25 \pm 13,25$  and a creatinine level of  $0.48 \pm 0.03$ ,  $6.39 \pm 3.26$ ,  $3.72 \pm 0.94$ ,  $1.28 \pm 0.51$ . P0 group showed significantly difference P1 and P2 groups ( $p < 0.05$ ) but not significantly difference to P3 group ( $p > 0.05$ ). The conclusion of the researched BUN and serum creatinine levels indicated there were influence of pomegranate fruit extract to decrease serum levels of BUN and creatinine in process white rat acute renal failure.

**Key words** : Blood Urea Nitrogen, Creatinine, CMC Na 0,3%, Ellagic Acid, Pomegranate extract