

ABSTRAK

PROFIL KADAR *BLOOD UREA NITROGEN* DAN SERUM FOSFAT PADA TIKUS MODEL KOMPRESI MEDULA SPINALIS

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Cedera medula spinalis (*spinal cord injury/ SCI*) merupakan salah satu gangguan neurologis yang sering terjadi baik pada manusia maupun hewan. Kejadian tersebut bisa menyebabkan berbagai komplikasi pada organ lain salah satunya fungsi ginjal. Penelitian ini bertujuan untuk menganalisis profil kadar *blood urea nitrogen* (BUN) dan serum fosfat yang dapat menjadi indikator penilaian fungsi ginjal pada tikus model SCI 14 hari pascatrauma kompresi medula spinalis. Sebanyak enam ekor tikus galur *Wistar* dibagi menjadi dua kelompok, yaitu kelompok kontrol (n=3) dan kelompok perlakuan (SCI, n=3). Pada kelompok perlakuan dilakukan prosedur laminektomi untuk mengekspos medula spinalis, diikuti dengan induksi cedera kompresi menggunakan *hemostatic forcep* selama 10 detik. Kadar BUN dan serum fosfat diukur secara kuantitatif lalu dianalisis menggunakan uji statistik *Independent Sample T-test* dengan program SPSS *statistic 25*. Hasil penelitian menunjukkan bahwa kadar BUN pada kelompok perlakuan mengalami peningkatan signifikan ($p < 0,05$) dibandingkan kelompok kontrol, sedangkan kadar serum fosfat tidak menunjukkan perbedaan signifikan ($p > 0,05$) meskipun terdapat peningkatan nilai dibandingkan kelompok kontrol. Temuan ini menunjukkan bahwa setelah 14 hari pascatrauma, SCI dapat berdampak pada fungsi ginjal, ditandai dengan peningkatan kadar BUN dan serum fosfat dalam darah tikus.

Kata kunci : *Blood Urea Nitrogen (BUN), Fosfat, Fungsi Ginjal, Medula Spinalis*

ABSTRACT

PROFILE OF BLOOD UREA NITROGEN AND PHOSPHATE SERUM LEVELS IN A RAT MODEL SPINAL CORD COMPRESSION

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Spinal cord injury (SCI) is one of the most common neurological disorders in both humans and animals. This event can cause various complications in other organs, one of which is kidney function. This study aims to analyze the profile of *blood urea nitrogen* (BUN) and phosphate serum levels that can be an indicator of kidney function assessment in SCI model rats 14 days post-traumatic spinal cord compression. A total of six Wistar rats were divided into two groups, namely the control group (n=3) and the treatment group (SCI, n=3). In the treatment group, a laminectomy procedure was performed to expose the spinal cord, followed by induction of compression injury using hemostatic forceps for 10 seconds. Serum BUN and phosphate serum levels were measured quantitatively and then analyzed using the Independent Sample T-test statistical test with the SPSS statistic 25 program. The results showed that BUN levels in the treatment group increased significantly ($p < 0,05$) compared to the control group, while phosphate serum levels did not show significant differences ($p > 0,05$) although there was an increase in value compared to the control group. These findings indicate that after 14 days post-trauma, SCI can have an impact on kidney function, characterized by increased levels of BUN and phosphate serum in the rats blood.

Keywords : *Blood Urea Nitrogen (BUN), Phosphate, Kidney Function, Spinal Cord*