

**PENGARUH PEMBERIAN EKSTRAK JAMUR TIRAM
PUTIH (*Pleurotus ostreatus*) TERHADAP KADAR SOD,
KADAR KREATININ DAN TINGKAT NEKROSIS
GINJAL**

(Studi Pada Mencit *Balb/c* Yang Diinduksi CCl₄)

***THE EFFECT OF OYSTER MUSHROOM EXTRACT
(*Pleurotus ostreatus*) TO SOD LEVEL, CREATININ
LEVEL AND THE NUMBER OF NECROSIS CELLS IN
KIDNEY***

(Study In Balb/c Mice Induced CCl₄)



**Tesis
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Magister Ilmu Gizi

**Sukma Sahreni
22030113410013**

**FAKULTAS KEDOKTERAN
UNIVERSITAS DIPONEGORO
SEMARANG**

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ABSTRAK
PENGARUH PEMBERIAN EKSTRAK JAMUR TIRAM PUTIH
(*Pleurotus ostreatus*) TERHADAP KADAR SOD, KADAR KREATININ
DAN TINGKAT NEKROSIS GINJAL

Sukma Sahreni, Kusmiyati Tjahyono, Kisdjamiatun

Latar belakang: Nekrosis tubular akut (NTA) merupakan penyebab utama gagal ginjal akut pada pasien yang dirawat (38%) dan pasien di ICU (76%). Mortalitas NTA pada pasien yang dirawat dan pasien ICU berturut-turut 37,1% dan 78,6%. *Pleurotus ostreatus* mengandung senyawa antioksidan tinggi dan mengandung struktur beta glukan. Penelitian ini bertujuan untuk mengetahui efek antioksidan dan efek beta glukan dari *Pleurotus ostreatus* terhadap regenerasi ginjal.

Metode: Penelitian ini menggunakan rancangan *Randomized Post Test Only Controlled Group Design*. Mencit *Balb/c* jantan diinduksi CCl_4 0,5ml/kgBB selama 2 minggu. Subyek penelitian adalah 25 ekor mencit jantan yang dibagi menjadi 5 kelompok yaitu, K- (tanpa perlakuan), K+ (kontrol positif), P₁ (CCl_4 + *Pleurotus ostreatus* 100mg/kgBB), P₂ (CCl_4 + *Pleurotus ostreatus* 200mg/kgBB), P₃ (CCl_4 + *Pleurotus ostreatus* 300mg/kgBB). Ekstrak *Pleurotus ostreatus* diberikan mulai minggu ke-4 sampai 7. Pengukuran kadar SOD serum, kadar kreatinin serum dan perhitungan sel nekrosis dilakukan pada hari terakhir penelitian. Data dianalisis dengan uji *one way ANOVA*.

Hasil: Ekstrak *Pleurotus ostreatus* mampu meningkatkan kadar SOD $p=0,000$, menurunkan kadar kreatinin $p=0,012$, dan menurunkan jumlah sel tubulus ginjal yang mengalami nekrosis $p=0,000$.

Kesimpulan: Tidak ada perbedaan kadar SOD serum, kreatinin serum dan jumlah sel nekrosis di tubulus ginjal pada dosis 100, 200 dan 300 mg/kgBB. Peningkatan nilai SOD serum, penurunan nilai kreatinin serum, dan penurunan jumlah sel nekrosis terbesar terdapat pada dosis 300 mg/kgBB.

Kata kunci: ATN, AKI, *Pleurotus ostreatus*, beta glukan, SOD, kreatinin, *Hematopoietic Stem Cell*.

ABSTRACT
THE EFFECT OF OYSTER MUSHROOM EXTRACT
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Background: Acute tubular necrosis (ATN) is the most common cause of the acute renal failure (ARF) that is responsible for at least 38% hospitalized patient and 76% patient in intensive care units. The mortality rate of hospitalized patient with ATN is 37,1% and 78,6% for the patient who treated in intensive care units. Oyster mushroom contains high antioxidant and beta glucan stucture. This study aims to perceive the effect of antioxidant and the beta glucan to regenerate damage of kidneys.

Methods: The Post Tets Only Randomized Controlled Group Design is used in this research. The mice male *Balb/c* were induced 0,5 ml/kgBW CCl₄ for two weeks. The research subject were 25 male mice *Balb/c* divided into five groups : K- (negative control), K+ (positive control), P₁ (CCl₄ + *Pleurotus ostreatus* extract 100 mg/kgBW), P₂ (CCl₄ + *Pleurotus ostreatus* extract 200 mg/kgBW), P₃ (CCl₄ + *Pleurotus ostreatus* extract 300 mg/kgBW). The *Pleurotus ostreatus* extract is given from week fourth to seventh. The serum level measurement of SOD and creatinin along with necrosis cell calculation are determined at the end of the experimentation period. The one way ANOVA is used to analyzed the data from this reseach.

Results: This study shows that *Pleurotus ostreatus* extract increase SOD level (p=0,000), decrease creatinin level (p=0,012), and decrease the number of necrosis cells in the renal tubular (p=0,000).

Conclusion: There are no differences on the serum level of SOD and creatinin and the number of necrosis cells in 100 mg/kgBW, 200 mg/kgBW and 300 mg/kgBW dosages groups. The most increasing levels of SOD serum, the most decreasing levels of creatinin serum, and the most decreasing the number of necrosis cells were showed in the 300 mg/kgBW dosage.

Key Words : ATN, ARN, *Pleurotus ostreatus*, beta glucan, SOD, kreatinin, Hematopoietic Stem Cell.