

## INTISARI

### **GAMBARAN HISTOPATOLOGI PULMO TIKUS PUTIH (*Rattus norvegicus albinus*) YANG DIINJEKSI PARAQUAT DICHLORIDE SEMINGGU DUA KALI SELAMA TIGA MINGGU**

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Herbisida merupakan senyawa kimia yang sering digunakan untuk menghambat pertumbuhan tanaman liar. *Paraquat dichloride* ( $C_{12}H_{14}N_2Cl_2$ ) merupakan herbisida non-selektif luas yang sering digunakan untuk memberantas tanaman liar. Penggunaan herbisida yang tidak tepat akan menimbulkan efek negatif terhadap manusia dan hewan. Penelitian ini bertujuan untuk mengetahui gambaran histopatologi pulmo tikus putih (*Rattus norvegicus albinus*) akibat pemberian *paraquat dichloride* seminggu dua kali selama tiga minggu.

Pengujian dengan menggunakan 30 ekor tikus putih (*Rattus norvegicus albinus*) jantan dewasa umur tiga bulan galur Wistar yang dibagi menjadi dua kelompok. Kelompok I sebanyak 15 ekor sebagai kontrol diinjeksi aquades proinjeksi sebanyak 1 ml, sedangkan kelompok II sebanyak 15 ekor perlakuan yang diinjeksi *paraquat dichloride* dengan dosis 7 mg/kg berat badan secara intraperitoneal. Pulmo diamati menggunakan mikroskop cahaya dengan pewarnaan HE. Hasil fibrosis diskoring dan dianalisis nonparametrik *Mann-Whitney* serta *Kruskal-Wellis* sedangkan jumlah makrofag alveolar dihitung dengan analisis parametrik *T-test* dan *Oneway Anova*.

Berdasarkan hasil analisis dan pengamatan, gambaran histopatologi pulmo tikus yang diinjeksi *paraquat dichloride* dosis 7 mg/kgBB seminggu dua kali selama tiga minggu menyebabkan terbentuknya fibrosis dan infiltrasi makrofag alveolar, dengan rerata kejadian fibrosis bersifat fokal terjadi sekitar 11-24% bidang pengamatan serta peningkatan jumlah makrofag alveolar  $\pm 3$  sel perbidang pandang.

**Kata Kunci :** Histopatologi, pulmo, *paraquat dichloride*, pewarnaan HE.

## ABSTRACT

### **THE HISTOPATOLOGICAL PULMONARY OF WHITE RAT'S (*Rattus norvegicus albinus*) WERE INJECTED PARAQUAT DICHLORIDE TWICE A WEEK FOR THREE WEEKS**

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Herbicides are chemicals that are often used to inhibit the growth of wild plants. *Paraquat dichloride* ( $C_{12}H_{14}N_2Cl_2$ ) is a non-selective herbicide which is often widely used to eradicate weeds. Improper use of herbicides that would cause negative effects on humans and animals. This study aims to reveal the pulmonary histopatological of white rat's (*Rattus norvegicus albinus*) were injected *paraquat dichloride* twice a week for three weeks.

Tests using 30 white rat's (*Rattus norvegicus albinus*) of adult male (3 month) Wistar strain were divided into two groups. Group I that 15 rats as control injection with 1 ml of aquades proinjeksion, while group II that 15 rats as treatment injected *paraquat dichloride* with dose 7 mg/kg bodyweight through intraperitoneal. Observations of pulmo using a light microscope with HE stain. The analysis of fibrosis by scoring with nonparametric methods of *Mann-Whitney* and *Kruskal-Wellis* while the number of alveolar macrophages by counting and than analysis with parametric methods of *T-test* and *Oneway Anova*.

Based on the analysis and observation result, the histopatological features of rat pulmo injected with *paraquat dichloride* dose of 7 mg/kg bodyweight twice a week for three weeks resulted in the formation of fibrosis and alveolar macrophages infiltration, with an average of focal fibrosis about 11-24% from observation field and increase in the number of alveolar macrophages about  $\pm 3$  cell field of view.

**Keywords :** Histopatology, pulmo, *paraquat dichloride*, HE stain.