

## INTISARI

### **DINAMIKA INFEKSI *Trypanosoma evansi* ISOLAT KALIMANTAN PADA TIKUS PUTIH (*Rattus novvergicus*) SECARA HISTOPATOLOGI**

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*Trypanosoma evansi* adalah penyebab penyakit Surra, salah satu penyakit hewan menular strategis di Indonesia. Penyebarannya hampir di seluruh pulau besar di Indonesia dan dapat menyerang berbagai jenis hewan ternak serta satwa liar, dan menimbulkan kerugian ekonomi yang besar sampai dengan kematian. Gejala klinis yang tampak seperti anemia, penurunan berat badan, gejala syaraf dan terjadinya masa inkubasi sangat bervariasi pada berbagai hewan. Penelitian ini bertujuan untuk mengetahui perubahan histopatologi pada berbagai organ dan pola parasitemia pada tikus putih akibat diinfeksi *Trypanosoma evansi* isolat Kalimantan. Sebanyak 75 ekor tikus putih dibagi menjadi dua kelompok perlakuan, kelompok I sebanyak 70 ekor diinokulasi dengan *Trypanosoma evansi*, kelompok II sebanyak 5 ekor sebagai kontrol. Hewan coba diinokulasi dengan  $1 \times 10^4$  *trypanosoma* dalam 0,1ml suspensi darah intraperitoneal. Sampel organ berupa hati, jantung, ginjal, limpa, otak dan paru diambil segera setelah hewan coba mengalami kematian. Sampel organ di fiksasi dalam larutan formalin 10%, dilanjutkan dengan pewarnaan hamatoksilin-eosin. Pengamatan hasil pewarnaan sampel organ dilakukan menggunakan mikroskop. Data hasil perubahan histopatologi akibat diinfeksi *Trypanosoma evansi* pada organ tikus akan dianalisa secara deskriptif. Hasil pemeriksaan posmortem terjadi pembesaran limpa dan perdarahan pada otak. Hasil pemeriksaan secara mikroskopis pada limpa menunjukkan terjadi penambahan dan proliferasi sel limposit, sampai ditahap lanjut terjadi depleksi limposit. Hati terjadi kongesti dan dilatasi vena centralis, focal necrosis, degenerasi hidropik dan degenerasi melemak. Paru terjadi odema dan penyempitan lumen alveoli derajat berat, kongesti dan hemoragi disertai dengan peradangan sel mononuklear. Otak terjadi kongesti dan penambahan jumlah gliosis. Ginjal terjadi degenerasi tubulus, kongesti dan hemoragis. Infeksi *Trypanosoma evansi* isolat Kalimantan dapat menyebabkan timbulnya jejas patologi pada organ tikus putih seperti hati, limpa, otak, jantung, ginjal dan paru.

Kata kunci : *Trypanosoma evansi*, histopatologi

## ABSTRACT

### THE DYNAMICS OF *Trypanosoma evansi* KALIMANTAN ISOLATE INFECTION ON *Rattus norvegicus* – A HISTOPATHOLOGICAL STUDY

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*Trypanosoma evansi* is the cause of Surra disease, a strategic infectious animal disease in Indonesia. Its spread is almost in all major islands in Indonesia and can attack various types of livestock and wildlife, and cause huge economic losses until death. Clinical symptoms that look like anemia, western body decline, neurological symptoms and the incubation period vary widely in various animals. This study aims to determine histopathological changes in various organs and parasitemia patterns in white rats due to infection with *Trypanosoma evansi* Kalimantan isolate. A total of 75 white rats were divided into two treatment groups, group I as many as 70 rats were inoculated with *Trypanosoma evansi*, group II as many as 5 rats as control. The animal was inoculated with  $1 \times 10^4$  *trypanosoma* in 0.1 ml of intraperitoneal blood suspension. Organ samples in the form of liver, heart, kidney, spleen, brain and lungs are taken as soon as the animal tries to experience death. Organ samples were fixed in 10% formalin solution, followed by hamatoxilin-eosin staining. Observation of the results of staining of organ samples was carried out using a microscope. Data from histopathological changes due to *Trypanosoma evansi* infection in rat organs will be analyzed descriptively. Postmortem examination results in spleen enlargement and bleeding in the brain. The results of microscopic examination of the spleen showed an increase and proliferation of lymphocyte cells, until the advanced stages of lymphocyte depletion occurred. Liver occurs with central vein congestion and dilatation, focal necrosis, hydropic degeneration and fatty degeneration. Lungs develop odema and narrowing of the alveoli lumen is severe, congestion and hemorrhage are accompanied by inflammation of mononuclear cells. Brain congestion and an increase in gliosis. The kidneys have tubular, congestive and hemorrhagic degeneration. *Trypanosoma evansi* infection of Kalimantan isolates can cause pathological lesions in white rat organs such as liver, spleen, brain, heart, kidneys and lungs.

Key words : *Trypanosoma evansi*, histopathology