

INTISARI

RESPON IMUN HUMORAL DAN GAMBARAN HISTOPATOLOGIS MERPATI (*Columba livia*) YANG DIINFEKSI DENGAN TAKIZOIT *Toxoplasma gondii*

Oleh :

Dana Meida

Toksoplasmosis merupakan penyakit zoonosis yang disebabkan oleh parasit obligat intraseluler *Toxoplasma gondii*. Parasit ini mampu menyerang hampir seluruh hewan berdarah panas dengan hospes definitif anggota familia *Felidae*. Tujuan penelitian ini adalah untuk mengetahui respon imun humoral dan mengevaluasi gambaran histopatologis organ limpa, hati dan otak merpati yang diinfeksi dengan takizoit *Toxoplasma gondii*. Metode perbanyakkan takizoit dilakukan dengan menginfeksi takizoit pada mencit. Cairan asites mencit kemudian diambil dan dilakukan pengenceran hingga 10^3 dalam NaCl fisiologis. Larutan pengenceran selanjutnya dihitung dengan diteteskan pada *haemocytometer*. Merpati yang digunakan dalam penelitian ini sebanyak 8 ekor. Enam ekor merpati diinfeksi secara subkutan dengan 10^5 takizoit/0,33 ml NaCl dan 2 ekor merpati tidak diinfeksi sebagai kontrol negatif. Pengambilan sampel dilakukan pada hari kedua, keempat dan ke-14 setelah infeksi. Sampel darah diambil secara intrakardial selanjutnya hewan diemboli dan dinekropsi untuk mengambil organ limpa, hati dan otak. Sampel serum diuji dengan menggunakan *Latex Agglutination Test (LAT) Pastorex-Toxo*[®] Kit. Serum seropositif ditunjukkan dengan terbentuknya agregat dan perubahan warna. Hasil pemeriksaan hari kedua pasca infeksi merpati M1 dan M2 seronegatif, hari keempat pasca infeksi merpati M3 seropositif dan M4 seronegatif, serta hari ke-14 pasca infeksi M5 dan M6 seropositif. Perubahan patologis pada organ limpa berupa deplesi pulpa putih, hati mengalami infiltrasi limfosit dan sel heterofil serta ditemukan takizoit pada merpati M2, M3, dan M5. Organ otak tidak mengalami perubahan. Merpati merupakan hewan yang rentan terhadap infeksi *Toxoplasma gondii* dan menghasilkan respon berupa antibodi yang terdeteksi pada hari keempat setelah infeksi.

Kata kunci : *Toxoplasma gondii*, toksoplasmosis, respon humoral, *Latex Agglutination Test*, perubahan histopatologis.

**HUMORAL IMMUNE RESPONSE AND HISTOPATHOLOGICAL CHANGES OF
PIGEONS (*Columba livia*) INFECTED BY TAKIZOIT OF *Toxoplasma gondii***

By :

Dana Meida

Toxoplasmosis is a zoonotic disease caused by the obligate intracellular parasite *Toxoplasma gondii*. This parasite is able to infect almost all warm-blooded animals with *Felidae* family as definitive host. The purpose of this study was to determine the humoral immune response and to evaluate the histopathological changes of spleen, liver and brain of pigeons that was infected by takizoit *Toxoplasma gondii*. Takizoit propagation performed by infecting mice with takizoit. Ascites fluid of mice were then taken and diluted of up to 10^3 in NaCl solution. The diluted solution was then calculated by dripped on haemocytometer. Eight pigeons were used for this research. Six pigeons were infected subcutaneously with 10^5 takizoit/0,33 ml NaCl and two pigeons were not infected as negative control. Sampling was taken on the second day, fourth and 14th post infection. Blood samples were taken intracardially, subsequently performed embolism and necropsy to the pigeons to take their spleens, livers and brains. Serum samples were tested using Latex Agglutination Test (LAT) Pastorex-Toxo® Kit. Seropositive serum was shown by the formation of aggregates and discoloration. The second day post infection results of M1 and M2 pigeons were seronegative, at fourth day post infection M3 pigeon was seropositive and M4 pigeon was seronegative, and on the 14th day post infection M5 and M6 were seropositive. Pathological changes in the spleen such as white pulp depletion, lymphocytes and heterophile cell infiltration and takizoit found in livers of pigeons M2, M3 and M5, but found no histopathological changes in all samples brains. Pigeons are animal that susceptible to the infection *Toxoplasma gondii* and responded by producing antibody that can be detected at the fourth day post infection.

Keywords : *Toxoplasma gondii*, toksoplasmosis, humoral immune response, *Latex Agglutination Test*, histopathological changes.