ABSTRAK

GAMBARAN HISTOPATOLOGI OTAK TIKUS MODEL STROKE ISCHEMIC DENGAN LIGASI ARTERI KAROTIS KOMUNIS SINISTER

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Stroke yang juga dikenali sebagai infark atau kerusakan serebrovaskular adalah penyakit ketiga terbanyak yang menyebabkan kematian di Indonesia dan dunia. Stroke iskemik merupakan stroke yang sering terjadi pada hewan terutama anjing berbanding stroke-stroke yang lain. Perlakuan meligasi arteri karotis komunis dapat menginduksi stroke iskemik karena aliran darah yang menuju ke otak akan terhambat sehingga menyebabkan hipoksia melanjut kerusakan sel-sel neuron. Penelitian ini bertujuan untuk melihat gambaran histopatologi otak tikus yang mengalami kerusakan sel-sel neuron setelah diinduksi stroke iskemik dengan diligasi arteri karotis komunis.

Penelitian ini menggunakan 6 ekor tikus Wistar jantan umur 2 bulan. Tikus dibagi menjadi 2 kelompok yaitu kelompok normal dan kelompok yang diligasi pada arteri karotis komunis sinister. Tikus dipelihara selama 7 hari, setelah itu tikus dieuthanasi dan otak tikus diambil dan dibuat preparat histopatologi dengan pengecatan hematoksilin dan eosin. Analisis dilakukan secara deskriptif dengan membanding perubahan histopatologi antara kelompok tikus yang diligasi arteri karotis komunis sinister dan yang tidak diligasi arteri karotis komunisnya.

Hasil analisis menunjukkan bahwa otak tikus yang diligasi arteri karotis komunisnya terlihat mengalami ekstravasasi eritrosit, infiltrasi limfosit, neutrofil, dan makrofag, akumulasi makroglia, edema perinueron dan nekrosis neuron. Dari hasil dapat disimpulkan bahwa ligasi arteri karotis komunis sinister menunjukkan perubahan histopatologi berupa ekstravasasi eritrosit, astrogliosis, infiltrasi sel-sel inflamasi, nekrosis neuron dan edema perineuron pada tikus model stroke iskemik

Kata kunci: ligasi arteri karotis komunis sinister, sel-sel neuron, stroke iskemik

ABSTRACT

HISTOPATHOLOGICAL FEATURES OF A RAT BRAIN ISCHEMIC STROKE MODEL WITH CAROTIS COMMUNIS ARTERY LIGATION

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Stroke which is also known as infarction or cerebrovascular damage is the third most common disease that causes death in Indonesia and the world. An ischemic stroke is a stroke that often occurs in animals, especially dogs compared to other strokes. The ligation of the common carotid artery can induce ischemic stroke because the blood that flows to the brain will be inhibited causing hypoxia to which will cause continous damage to neuronal cells. This study aims to look at the histopathological features of the brains of mice that have damaged neuron cells after ischemic stroke has been induced through the ligation of the common carotid artery.

This study used 6 male Wistar rats aged 2 months. Mice were divided into 2 groups: control group and a group which were ligated in the common carotid artery. The mice were kept for 7 days. After that 7 days, the mice were euthanized, the mouse brain was taken out and fixed in 10% buffer formaline for tissue examination. The analysis was conducted descriptively by looking and comparing the histopathological changes between groups of rats ligated with left common carotid artery and who were not ligated in the left common carotid arteries.

The results of the analysis showed that the brains of mice that were ligated at their left common carotid arteries were erythrocyte extravasation, infiltration of lymphocyte, neutrophils, and macrophages, macroglia accumulation, perinueron edema and neuron necrosis. From the results it can be concluded that ligation of the left common carotid artery shows histopathological changes in the form of erythrocyte extravasation, astrogliosis, infiltration of inflammatory cells, neuronal necrosis and perineuron edema in ischemic stroke model

Keywords: Ischemic stroke, left common carotid artery ligation, neuron cells