

ABSTRAK

ANALISIS HISTOPATOLOGI MEDULA SPINALIS SERVIKALIS AKIBAT PEJANAN LISTRIK SELAMA 45 DETIK

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Listrik merupakan salah satu sumber energi sangat dibutuhkan pada kehidupan sekarang. Namun, Listrik dapat menyebabkan kecelakaan yang fatal hingga kematian. Beberapa penelitian menunjukkan listrik dapat menyebabkan cedera pada medulla spinalis. Penelitian ini bertujuan untuk mengetahui gambaran histopatologi medulla spinalis servikalis akibat pejanan listrik selama 45 detik. Sepuluh ekor tikus dibagi menjadi 2 kelompok yang masing-masing terdiri dari 5 ekor tikus SD. Kelompok pertama sebagai kontrol dan kelompok dua diberi perlakuan sengatan listrik dengan tegangan 0,05 A, 220 v, 12 watt, 50 Hz selama 45 detik. Pemberian sengatan listrik dilakukan secara langsung dengan cara menjepit ujung konduktor (listrik masuk) pada kepala dan ujung konduktor lainnya (listrik keluar) pada kaki depan tikus SD. Medula spinalis servikalis yang telah diambil dari masing-masing tikus SD direndam di dalam larutan PBS Formalin 10%. Jaringan diproses dengan metode parafin lalu dipotong dengan ketebalan 4 μ m. Preparat diwarnai dengan pewarnaan *hematoxylin-eosin* lalu hasil diamati dengan mikroskop. Perubahan mikroskopis medulla spinalis servikalis dianalisis secara deskriptif dengan membandingkan kelompok kontrol dengan kelompok perlakuan. Hasil pemeriksaan preparat histopatologis menunjukkan adanya kerusakan Medula spinalis servikalis pada kelompok perlakuan berupa kongesti dan nekrosis sel neuron.

Kata kunci: medula spinalis, listrik, kongesti, nekrosis.

ABSTRACT

HISTOPATHOLOGICAL ANALYSIS OF CERVICAL SPINAL MEDULA DUE TO ELECTRIC EXPOSURE FOR 45 SECONDS

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Electricity is one of the energy sources needed in today's life. However, electricity can cause fatal accidents and even death. Some studies show electricity can cause injury to the spinal cord. This study aims to determine the histopathological picture of the cervical spinal cord due to electrical exposure for 45 seconds. Ten rats were divided into 2 groups, each consisting of 5 SD rats. The first group as a control and the second group was treated with electric shock with a voltage of 0.05 A, 220 v, 12 watts, 50 Hz for 45 seconds. The administration of electric shock is done directly by clamping the end of the conductor (electricity in) on the head and the other end of the conductor (electricity out) on the forelimbs of SD rats. The cervical spinal cord that had been taken from each SD rat was immersed in 10% PBS Formalin solution. The tissue was processed with paraffin method and then cut with a thickness of 4 μ m. The preparations were stained with hematoxylin-eosin stain and then the results were observed with a microscope. Microscopic changes in the cervical spinal cord were analyzed descriptively by comparing the control group with the treatment group. The results of the examination of histopathological preparations showed damage to the cervical spinal cord in the treatment group in the form of congestion and necrosis of neuronal cells.

Keywords: spinal cord, electricity, congestion, necrosis.