Ekspresi AgNOR pada sel neuron korteks serebrum tikus pascahipoksia dengan pemberian ekstrak etanol akar acalypha indica dan herba centella asiatica = AgNOR expression in neuron cells of cerebral cortex post-hypoxia rat that given ethanol extract from acalypha indica root and centella asiatica

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Abstrak

Hipoksia merupakan kondisi inadekuat suplai oksigen menyebabkan peningkatan radikal bebas perusak organ, contohnya otak. Radikal bebas dinetralisir antioksidan endogen dan eksogen. Acalypha indica dan Centella asiatica memiliki efek antioksidan. Pewarnaan AgNOR mengukur derajat kerusakan sel. Penelitian bertujuan membuktikan efek pemberian kombinasi ekstrak etanol akar Acalypha indica dan Centella asiatica pada histopatologi neuron korteks serebrum tikus pascahipoksia pewarnaan AgNOR. Penelitian mendapat sediaan dari 26 ekor tikus Spraque-Dawley, terbagi dalam 6 kelompok: kontrol normal; kontrol negatif (hipoksia+aquades); hipoksia+kombinasi 1; hipoksia+kombinasi 2; hipoksia+tunggal 2; kontrol positif (hipoksia+vit C). Induksi hipoksia selama 7 hari dengan mengalirkan O2 10% dan N2 90% bertekanan 1 atm. Setelah 7 hari, dilakukan Analisis Gas Darah, reoksigenasi 1 jam, dilanjutkan pemberian perlakuan aquades; (AI200+CA150); (AI250+CA100); CA150 dan vitamin C selama 7 hari. Pada akhir studi dilakukan euthanasia, organ otak diambil untuk pemeriksaan histopatologi dengan pewarnaan AgNOR. Hasil: Pemberian esktrak kombinasi 2, tunggal 2, dan kombinasi 1 berbeda bermakna dibandingkan kontrol negatif (p=0,000; p=0,005; p=0,023). Kesimpulan: Kombinasi ekstrak etanol (AI250+CA100) memiliki efek terbaik untuk mengurangi kerusakan neuron korteks serebrum secara histopatologi.
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Hypoxia is inadequate conditions of oxygen causes increasing free radicals destroying organs, e.g. brain. Free radicals neutralized by endogenous and exogenous antioxidants. Acalypha indica and Centella asiatica have antioxidant effects. AgNOR staining measures degree of damaged cell. The aim of this study was to prove the effect of the combination of ethanol extract on the roots of Acalypha indica and Centella asiatica on the histopathology of cortical neurons in cerebrum of rats after hypoxia in AgNOR staining. The study of 26 Spraque-Dawley rats, divided into 6 groups: normal control; negative control (hypoxia + aquades); hypoxia + combination 1; hypoxia + combination 2; hypoxia + single 2; positive control (hypoxia + vit C). Induction of hypoxia for 7 days by flowing 10% O2 and 90% N2 with 1 atm pressure. After 7 days, Blood Gas Analysis, 1 hour re-oxygenation, followed by treatments; distilled water; (AI200 + CA150); (AI250 + CA100); CA150 and vitamin C for 7 days. At the end of study, euthanasia was carried out, brain organs were taken for histopathology examination with AgNOR staining. The combination 2, single 2 and combination 1 extracts were significantly different compared to negative control (p = 0,000; p = 0.005; p = 0.023). The combination of ethanol extract (AI250 + CA100) has the best effect to reduce damage to cerebral cortical neurons histopathologically.