

Efektifitas kombinasi ekstrak *acalypha indica* linn dan *centella asiatica* pada sel neuron piknotik di girus dentatus internus tikus sprague dawley pascahipoksia = The effectivity of combination extract *acalypha indica* linn and *centella asiatica* on picnotic cells in gyrus dentatus internus in sprague dawley rats pascahypoxia

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Abstrak

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Stroke adalah suatu penyakit serebrovaskular yang disebabkan oleh berhentinya aliran darah arteri ke otak. Sekitar 80-85% stroke adalah stroke iskemik yang disebabkan oleh obstruksi pada arteri di sirkulasi serebelum. Hipoksia serebral yang terjadi akibat iskemik pada otak tersebut menimbulkan perubahan pada morfologi sel dan kemudian kematian sel dimana sel neuron menjadi piknotik bermanifestasi berupa kecacatan neurologis pada penderitanya, sehingga penderita stroke harus mengonsumsi obat jangka panjang untuk kesembuhannya. Citicoline merupakan obat yang efektif untuk stroke dari penelitiannya namun memiliki kelemahan dari segi pemakaian dan harga yang mahal menyebabkan obat ini kurang efisien di masyarakat. Tanaman herbal akar kucing dan pegagan merupakan obat alternatif pada terapi stroke karena efek neuroprotektifnya. Dosis kombinasi kedua herbal ini diharapkan mampu memberikan perubahan jumlah pada sel piknotik di otak.

Penelitian ini bersifat eksperimental dengan melakukan percobaan pemberian ekstrak akar kucing dan pegagan terhadap tikus terhadap 5 kelompok tikus yang dibuat hipoksia dengan berbagai jenis perlakuan yaitu pemberian akuades, citicolin, dosis akar kucing 150,200,250mg dikombinasikan dengan pegagan 150mg. Serebelum tikus kemudian diambil dan dibuat sediaan prepat histopatologi untuk dilihat perubahan terhadap sel piknotik di girus dentatus internus.

Dari hasil uji One away Anova didapatkan bahwa tidak terdapat perubahan jumlah sel piknotik yang bermakna terhadap perlakuan yang diberikan terhadap tikus ($p > 0,05$). Pada penelitian ini dapat disimpulkan bahwa terapi kombinasi kedua herbal tersebut tidak memberikan perubahan jumlah sel piknotik pada girus dentatus internus tikus.

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ABSTRACT

Stroke is cerebrovascular disease caused by cessation of arterial blood flow to the brain. Approximately 80-85% of strokes are ischemic strokes caused by arterial obstruction in the circulation of cerebellum. Cerebral hypoxia caused by ischemia of the brain gives result in alteration of cells morphology and cell death in which

neuron cells become picnotics. This will later manifest in the form of neurological disability shown in the affected individuals resulting in the need to take long term medication. Citicoline is an effective drug for stroke based on research but has drawbacks in terms of usage and high price which cause it to be less efficient in the community. The herbs cat root and Indian pennywort are alternative drugs for stroke therapy because of their neuroprotective effects. Combination dose of these two herbs are expected to provide a change in number of picnotic cells in rat's brain.

This research experiments on giving the extract of cat root and Indian pennywort to 5 groups of hypoxic rats in various dose (150, 200, 250 mg of cat root combined with 150 mg of Indian pennyworts), negative control is given aquades and positive control is given citicoline. The cerebellum of the rats is then taken and is made to histopathologic preparation to see the changes of picnotic cells in gyrus dentatus internus.

From the One Way Anova test results, it can be seen that there is no meaningful changes in the number of picnotic cells after the treatments are given to the rats ($p > 0,05$). In conclusion, therapy with combination of cat root and Indian pennywort does not provide changes in number of picnotic cells in gyrus dentatus internus of the rats.

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