EFEK LAMA WAKTU PEMBERIAN EKSTRAK ETANOL SELEDRI (*Apium graveolens L.*) TERHADAP KADAR NITRIT OKSIDA TIKUS PUTIH (*Sprague dawley)* MODEL *ISCHEMIA REPERFUSION INJURY*

ABSTRAK

Ischemia Reperfusion Injury (IRI) atau cedera iskemia reperfusi adalah cedera yang terjadi akibat adanya pembatasan atau gangguan aliran darah menuju organ diikuti dengan pemulihan aliran darah ke organ tersebut. Seledri (*Apium graveolens* L.) mempunyai efek farmakologis antioksidan dan antiinflamasi karena mengandung senyawa aktif seperti flavonoid, glikosida iridoid, tanin dan saponin. Aktivitas antioksidan serta antiinflamasi seledri dapat mencegah kerusakan seluler yang ditandai dengan terjadinya peroksidase lipid dan penurunan kadar nitrit oksida pada *ischemia reperfusion injury* (IRI). Penelitian ini bertujuan untuk mengetahui efek lama waktu pemberian seledri (*Apium graveolens* L.) dalam mencegah penurunan kadar NO tikus putih (*Sprague dawley*) model IRI. Metode penelitian adalah eksperimental dengan *post test only with control group design*. Dua puluh lima ekor tikus putih dibagi dalam 5 kelompok. Kelompok A sebagai kontrol sehat, kelompok B sebagai kontrol sakit, kelompok C (1000 mg/kgBB selama 7 hari), kelompok D (1000 mg/kgBB selama 14 hari), dan kelompok E (1000 mg/kgBB selama 28 hari). Pada hari ke-8, ke-15 dan ke-29 setelah pemberian ekstrak, kelompok B, C, D, E dibedah dan dibuat model IRI. Kadar NO diperiksa dengan metode *Griess*. Rerata kadar nitrit oksida kelompok A=9,56±0,83; B=3,29±0,70; C=5,908±0,23; D=7,983±0,61; E=7,786±0,45. Hasil uji *One Way* Anova nitrit oksida menunjukkan nilai p=0,000 ($p<0,05$). Uji *post hoc* LSD nitrit oksida menunjukkan hasil perbedaan rerata yang signifikan antara kelompok A dengan semua kelompok data, dan antara kelompok B dengan C, D, dan E ($p<0,05$). Pemberian ekstrak etanol seledri (*Apium graveolens* L.) selama 14 sampai 28 hari dapat mencegah penurunan kadar NO tikus model IRI.

Kata kunci: Seledri, *Apium graveolens* L., kadar nitrit oksida, *ischemia reperfusion injury*

THE EFFECT OF LENGTH OF TIME OF CELERY ETHANOLIC EXTRACT'S ADMINISTRATION (*Apium graveolens L.*) TO NITRIC OXIDE LEVELS OF ALBINO RAT (*Sprague dawley*) MODELS OF *ISCHEMIA REPERFUSION INJURY*

ABSTRACT

Ischemia Reperfusion Injury (IRI) or reperfusion injury is an injury caused due to restrictions or interruption of blood flow to organs followed by the recovery of blood flow into those organs. Celery (*Apium graveolens* L.) has pharmacological antioxidants and anti-inflammatory because it contains active compounds such as flavonoid, iroid glycosides, tannin, and saponin. Antioxidants as well as anti-inflammatory activities of celeries can prevent cellular damages that is indicated by the occurrence of lipid peroxidase and reduction in nitric oxide levels of *ischemia reperfusion injury* (IRI). The purpose of this research is to discover the effect of the length of time of the celery (*Apium graveolens* L.) administration in preventing the decreases in NO levels of IRI's albino rat (*Sprague dawley*) models. The method of this research is experimental with *post test only with control group design*. Twenty five albino rats are divided into 5 groups. Group A as healthy control, Group B as control of pain, Group C (1000 mg/kgBB for 7 days), Group D (1000 mg/kgBB for 14 days), and Group E (1000 mg/kgBB for 28 days). On the 8th, 15th, and 29th days after administration of extracts, Group B, C, D, and E were dissected and made into IRI models. *Griess* method is used to discover NO levels. Average nitric oxide levels of Group A=9,56±0,83; B=3,29±0,70; C=5,908±0,23; D=7,983±0,61; E=7,786±0,45. *One Way* Anova nitric oxide test results indicates p level=0,000 ($p<0,05$). *Post hoc* LSD Nitrit Oxcide Test indicates the results of significant mean differences between Group A and the entire data groups, as well as between Group B with C, D, and E ($p<0,05$). The administration of celery (*Apium graveolens* L.) extracts for 14 to 28 days can prevent the decreases in NO levels of rat models of IRI.

Keywords: Celery, *Apium graveolens* L., nitric oxide levels, *ischemia reperfusion injury*