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M. FAUZAN ABDULLAH

Pengaruh Pemberian Ekstrak Rosella (*Hibiscus Sabdariffa Linn*) Terhadap Jumlah Dan Kecepatan Spermatozoa, Berat Testis Tikus Jantan Strain Wistar Yang Terpapar Karbon Tetraklorida (CCl_4)

ABSTRAK

Pemberian karbontetraklorida (CCl_4) pada tikus jantan strain wistar menyebabkan peningkatan radikal bebas. Karbontetraklorida berfungsi sebagai radikal bebas sehingga terjadi akomodasi radikal bebas yaitu CCl_3 yang merupakan zat reaktif. CCl_3 bereaksi dengan oksigen menghasilkan CCl_3O_2 bersifat sangat reaktif meyebabkan peningkatan *Reactive Oxygen Species* (ROS). Radikal bebas yang berlebihan mengganggu proses spermatogenesis, kerusakan membran spermatozoa akibat terbentuknya lipid peroksida pada membran akan menurunkan jumlah, kecepatan spermatozoa dan berat testis, sehingga diberikan antioksidan ekstrak rosella.

Desain penelitian merupakan penelitian eksperimental laboratoris menggunakan rancangan penelitian *post test only control group* yaitu digunakan untuk mengukur pengaruh perlakuan pada kelompok eksperimen, membandingkan perlakuan dengan kelompok kontrol. Hasil penelitian jumlah spermatozoa tikus jantan yang terpapar karbontetraklorida (CCl_4) terdapat perbedaan bermakna antara kelompok kontrol negatif dengan kelompok kontrol positif serta pada kelompok perlakuan I dan perlakuan II karena nilai $p \leq 0,05$. Pada kecepatan spermatozoa menunjukkan perbedaan bermakna antara kelompok kontrol negatif dengan kelompok kontrol positif, kelompok perlakuan I dan perlakuan II karena nilai $p \leq 0,05$. Pada berat testis tidak menunjukkan pengaruh yang bermakna, dimana $p > 0,05$.

Kesimpulan penelitian ini, pemberian ekstrak rosella dosis 250 dan 500 mg/kgbb memberi pengaruh secara signifikan terhadap peningkatan jumlah dan kecepatan spermatozoa pada tikus yang terpapar CCl_4, sedangkan pada berat testis tidak terdapat pengaruh yang signifikan.

Kata kunci : Ekstrak rosella, Karbontetraklorida (CCl_4), Jumlah Spermatozoa, Kecepatan Spermatozoa

MAGISTER OF BIOMEDICINE
ANDALAS UNIVERSITY
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M. FAUZAN A

The Effect of Roselle (Hibiscus Sabdariffa Linn) Extract to the Number and the Speed of Spermatozoa and the Testicle Weight of Male Wistar Rat Exposed the Carbon Tetrachloride (CCl_4)

ABSTRACT

Administration of Carbon Tetrachloride to male Wistar Rats cause the increase of free radicals. Carbon Tetrachloride served as free radicals which resulted in free radicals accomodation, CCl_3, which is reactive substance, occured. CCl_3 reactive oxygen and produced CCl_3 O_2 , which was highly reactive, and caused the increase of Reactive Oxygen Species (ROS). Excessive free radicals would disturb the process of spermatogenesis. The damage to spermatozoa membrane which was caused by the formation of lipid peroxides at membrane would decrease the number and the speed of spermatozoa, and the weight of the testicle, so that antioxidant of Rosella extract was given.

Teh design of the research was laboratory experimental recearch using post test only control group research design which was used to measure the effect to the treatment in the experimental group by comparing it to treatment of the control group.

From the research of the number of spermatozoa of the male rats exposed to Carbon Tetrachloride (CCl_4), it was found out that there was a significant difference between the number of the spermatozoa of negative control group and the positive control group, and at treatment group I and treatment group II beacuse the p value was $\leq$ 0,05. It was also found out that there was a significant difference of the spermatozoa speed between the negative control group and the positive control group, and at treatment group I and treatment group II because the p value was $\leq$ 0,05. On the other hand, there was no significant difference of the testicle weight in which the p value > 0,05.

The conclusion of the research was that Rosella extract administration with 250 and 500 mg/kgbw doses gave significant influence to the icrease of the number and the speed of spermatozoa of rat exposed to CCl_4, whereas there was no significant influence on the testicle weight.

Key word: Rosella Extract, Carbon Tetrachloride, The Number of Spermatozoa, To Speed of Spermatozoa


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