ABSTRACT

EFFECT OF CHITOSAN ON TOTAL SPERMATOGENIC CELLS AND SPERMATOZOA CELL ON MICE (Mus Musculus L) THAT INDUCED PLUMBUM ACETATE

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Chitosan contain natural antioxidants that boost androgenic activity in testis. The purpose of this study was to determine the effect of chitosan on the number of spermatogenic cells and sperm cells of strain Balb/c mice’s testes which is induced by plumbum acetate.

In this study, 25 male mice were randomly divided into 5 groups and treated for 4 days. K1 (normal controls which were given distilled water), K2 (negative controls which were only given 80 mg / KgBW of plumbum acetate), P3 (mice given 0.5% chitosan and 80 mg / kgBW of plumbum acetate), P2 (mice given 0.75% chitosan and 80 mg / kgBW of plumbum acetate), and P3 (mice given 1% chitosan and 80 mg / kgBW of plumbum acetate).

The results showed the average number of spermatogenic cells in K1: 235.28 ± 32.97; K2: 34.04 ± 9.81; P1: 79.60 ± 17.39; P2: 107.08 ± 19.45; and P3: 118.32 ± 9.17. The average number of sperm cells in K1: 78.04 ± 12.04; K2: 17.28 ± 2.41; P1: 29.76 ± 2.24; P2: 37.32 ± 1.65; and P3: 46.44 ± 2.32. The conclusion from this study is that the chitosan dose of 0.5%, 0.75% and 1% can be a protective agent for mice’s testes which is induced by plumbum acetate, marked by the increasing in number of spermatogenic and spermatozoa cells compared to positive control.

Keyword: Chitosan, Plumbum Acetate, Spermatogenic cell, Sperm cell, Testes.