

Potensi Antioksidan *Biophytum Petersianum* Klotzsch terhadap Apoptosis dan Gambaran Histopatologis Testis pada Mencit Jantan yang dipapar 2,3,7,8-Tetrachlorodibenzo-p-dioxin

Dewita

ABSTRACT

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is the most toxic compound in the dioxin group. This compound is a pollutant for the environment and very harmful to human health and enter the body through the mucous membranes in the mouth and the respiratory tract but generally through dairy products, poultry, meat, eggs and foods that contain fat and can be transmitted through the placenta and lactation. The aim of this study was to know the antioxidant potency of *kebar* grass to resolve reproduction disturbance caused by TCDD exposure.

Thirty Balb / C male mice were divided into five different groups, the negative control group, a positive control group exposed to TCDD at a dose of 7 µg / kg BW, P1 group of groups exposed to TCDD doses of 7 µg / kg BW and given *kebar* grass extract 0.05mg / gBB / day, group P2 group exposed to TCDD doses of 7µg / kgBW and given 0.080mg / gBB / day, and group P3 were exposed to TCDD dose of 7µg / kgBB and given the extract of *kebar* grass 0.135mg / gBB / day during day 2 to day 55. On the 56th day the mice were sacrificed and apoptotic examination and spermatogenic cell histopathological features were performed on the testis seminiferous tubule. The results showed that: P2 (0,433 ± 0,497) and P3 (0,200 ± 0,000) groups were the most effective group in decreasing spermatogenic cell apoptosis compared to positive control group (2,933 ± 1,5832) p<0,05. The *Johnsen score* result showed that P2 (9,400 ± 0,420) and P3 (9,800 ± 0,253) groups improving the histopathologic picture of spermatogenic cells in seminiferous tubules compared to positive control group (7,20 ± 0,400) p<0,05. Conclusion of this study were *kebar* grass is effective to solve reproduction disturbances caused by exposure of TCDD and the P3 group is the most effective group. Based on the results of this study it is advisable to know the maximum dose of *kebar* grass extract in TCDD exposure case therapy and the effect of *kebar* grass to reproduction hormones level.

Keywords: 2,3,7,8-Tetrachlorodibenzo-p-dioxin, *Biophytum petersianum*, apoptosis, spermatogenic cells