RINGKASAN

Asap rokok mengandung sangat banyak radikal bebas yang dapat menyebabkan terjadinya stres oksidatif di paru, hepar dan organ lainnya. Kondisi stres oksidatif tersebut berkaitan dengan patogenesis beberapa macam penyakit kronis seperti kanker hepar, penyakit paru obstruktif menahun dan lainnya. Penelitian tentang jinten hitam menunjukkan adanya potensi antioksidan.

Tujuan penelitian ini adalah membuktikan bahwa ekstrak jinten hitam dapat meningkatkan kadar GSH paru dan GSH hepar tikus wistar yang dipapar asap rokok. Rancangan penelitian yang digunakan adalah *Post Test Only Control Group Design.* Tiga puluh ekor tikus wistar dibagi menjadi 5 kelompok. Kelompok pertama adalah kontrol negatif (tanpa perlakuan). Kelompok kedua adalah kontrol positif (dipapar asap rokok). Kelompok ketiga adalah grup A (dipapar asap rokok dan diberi ekstrak jinten hitam dosis 0.6 gr/kgBB/hari). Kelompok keempat adalah grup B (dipapar asap rokok dan diberi ekstrak jinten hitam dosis 1.2 gr/kgBB/hari). Kelompok kelima adalah grup C (dipapar asap rokok dan diberi ekstrak jinten hitam dosis 2.4 gr/kgBB/hari). Paparan asap rokok diberikan sehari dua kali selama 1 bulan. Kadar GSH diukur dengan metode dari Ellman.

Hasilnya, kadar GSH paru kontrol negatif (0.80778 ± 0.10218 umol/100 mg jar) dan kontrol positif (0.08980 ± 0.057562 umol/100 mg jar). Pada kelompok A, B dan C berturut-turut adalah (0.14575 ± 0.12619 umol/100 mg jar), (0.36760 ± 0.11998

SUMMARY

The Influence of Black Seed's Extract on Glutathione Levels in Lung and Liver of Wistar Rat Which were Exposed to Cigarette Smoke.
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Cigarette smoke contains free radicals that can generate oxidative stress of lung, liver and other organs in the body. The oxidative stress itself has a relationship with the pathogenesis of some chronic diseases such as cancerand chronic obstructive pulmonary disease. Black seed studies was showed that it has potential antioxidant activity.

The aim of this research was to prove that black seed extract can increase GSH levels in Lung and Liver of wistar rat that were exposed to cigarette smoke. The research design used in this research was The Post Test Only Control Group Design, involving Thirty (30) wistar rats divided into five groups. The first group was negative control group (without any treatment), the second group was positive control group (only exposed to cigarette smoke), the third group was the A group (exposed to cigarette smoke and the black seed's extract in a dose of 0.6 gr/kilograms body weight), the fourth group was the B Group (exposed to cigarette smoke and the black seed's extract in a dose of 1.2 gr/kilograms body weight), and the last group was the C Group (exposed to cigarette smoke and the black seed's extract in dose of 2.4 gr/kilograms body weight). The exposure of cigarette smoke was given twice daily for a month. The GSH levels of the lung and liver tissues were measured by Ellman method.

Result: The levels of lung's GSH/100 mg wet tissue were 0.80778±0.10218 umol, 0.08980±0.057562 umol, 0.14575± 0.12619 umol, 0.36760±0.11998 umol and 0.33261±0.11284 umol for the first, second, A, B and C groups, respectively. The GSH levels of the second group was significantly lower than that in the first group. The GSH levels of the B and C groups were significantly higher than in the second group, but it was not observed in the A group. The levels of liver GSH /100 mg wet tissue were 1.62237 ± 0.050554 umol, 0.88356 ± 0.10300 umol, 1.17732 ± 0.06313 umol, 1.18912 ± 0.083093 umol, 1.33379 ± 0.046128 umol for the first, second, A, B and C groups, respectively. The GSH levels of the second group was significantly lower than that in the first group. The GSH levels of the A, B and C groups were significantly higher than that in the second group. All of the data were analyzed by manova and *Tukey HSD test*.

The result of this research indicate that the extract of black seed can increase GSH levels in lungs and liver of wistar rat which were exposed to cigarette smoke.

ABSTRACT

The Influence of Black Seed's Extract for on Glutathione Levels in Lung and Liver of Wistar Rat which were Exposed to Cigarette Smoke.
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Abstract. Cigarette smoke contains free radicals or oxidants, that can generate oxidative stress of lungs, liver and the other organs in the body. The black seed studies was showed that it has potential antioxidant activity.
The aim of this research was to prove that black seed extract can increase GSH levels in Lung and Liver of wistar rat which were exposed to cigarette smoke. ***Method***: Experimental study with *post test only control group design*. The thirty (30) wistar rats divided into five groups. The first group was a negative control group (without any treatment), the second group was positive control group (only exposed to cigarette smoke), the third group was the A group (exposed to cigarette smoke and black seed's extract in dose of 0.6 gr/kilograms body weight), the fourth group was the B Group (exposed to cigarette smoke and black seed's extract in dose of 1.2 gr/kilograms body weight), and the last group was the C Group (exposed to cigarette smoke and black seed's extract in dose of 2.4 gr/kilograms body weight). The exposure of cigarette smoke was given twice daily for a month. The GSH levels of the lung and liver tissues were measured by Ellman method. **Result :** All of the data were analyzed by manova and Tukey HSD test. The levels of lung's GSH/100 mg wet tissue were 0.80778±0.10218 umol, 0.08980±0.057562 umol, 0.14575± 0.12619 umol, 0.36760±0.11998 umokl and 0.33261±0.11284 umol for the first, second, A, B and C groups, respectively. The GSH levels of the second group was significantly lower than that in the first group. The GSH levels of the B and C groups were significantly higher than that in the second group, but it was not observed in the A group. The levels of liver GSH /100 mg wet tissue were 1.62237 ± 0.050554 umol, 0.88356 ± 0.10300 umol, 1.17732 ± 0.06313 umol, 1.18912 ± 0.083093 umol, 1.33379 ± 0.046128 umol for the first, second, A, B and C groups, respectively. The GSH levels of the second group was significantly lower than that in the first group. The GSH levels of the A, B and C groups were significantly higher than that in the second group and the C group had the highest value, closely to the normal condition. **Conclusion**: The black seed's extract can increase GSH levels of lungs and liver of wistar rat which were exposed to cigarette smoke.

Key word: **Black Seed's extract, cigarette smoke, lung GSH, liver GSH.**