

INTISARI

Penggunaan insektisida deltametrin dan sipermetrin untuk mengendalikan hama telah banyak dilakukan di Indonesia. Penggunaan insektisida yang tidak teratur dan berlebihan dapat menyebabkan efek toksik pada sistem reproduksi pria. Insektisida deltametrin dan sipermetrin diketahui dapat menghambat biosintesis androgen dan mengganggu perkembangan sperma pada sistem reproduksi pria. Oleh karena itu, penelitian ini dilakukan untuk mengetahui pengaruh deltametrin dan sipermetrin terhadap kadar testosteron intratestikuler pada tikus jantan galur Wistar.

Penelitian ini dilakukan secara *in vivo* menggunakan tikus jantan galur Wistar. Sembilan ekor tikus dibagi dalam tiga kelompok perlakuan: kelompok kontrol, kelompok deltametrin 0,26 mg/kgBB, dan kelompok sipermetrin 0,26 mg/kgBB. Perlakuan dilakukan setiap hari selama 15 hari secara per oral dan kemudian tikus dibedah untuk diambil organnya. Organ testis dicacah dan diambil homogenat intratestikuler dengan menambahkan medium DMEM dan kolagenase (0,25 mg/mL). Pengukuran kadar testosteron dilakukan dengan menggunakan metode *Electrochemiluminescence immunoassay* (ECLIA). Data perubahan kenaikan berat badan (PKBP), berat organ, dan kadar testosteron dianalisis secara statistik menggunakan metode uji *One-way ANOVA*.

Hasil penelitian menunjukkan bahwa pemberian deltametrin 0,26 mg/kgBB dan sipermetrin 0,26 mg/kgBB tidak berpengaruh signifikan terhadap berat relatif organ reproduksi dan PKBP. Berdasarkan hasil penelitian juga menunjukkan tidak adanya perbedaan bermakna pada kadar testosteron intratestikuler tikus jantan galur Wistar antar kelompok perlakuan.

Kata kunci : sipermetrin, deltametrin, testosteron intratestikuler, tikus Wistar jantan

ABSTRACT

The use of deltamethrin and cypermethrin insecticides in pest control has been widely performed in Indonesia. Irregular and excessive use of insecticides can cause toxic effects on male reproductive system. Deltamethrin and cypermethrin insecticides are known to inhibit the biosynthesis of androgens and interfere with the development of sperm in male reproductive system. Therefore, this study was conducted to determine the effect of deltamethrin and cypermethrin on intratesticular testosterone levels in male Wistar rats.

The study was conducted in vivo using male Wistar rats. Nine rats were divided into three treatment groups: control group, deltamethrin 0.26 mg/kgBW group, and cypermethrin 0.26 mg/kgBW group. Treatment was given daily by oral gavage for 15 days and then the rats were each dissected to have their reproductive organs taken. The testes were minced to allow intratesticular homogenate extraction by adding DMEM medium and collagenase (0.25 mg/mL). Testosterone levels were measured using the Electrochemiluminescence immunoassay (ECLIA) method. The body weight gain, organ weights, and testosterone levels were statistically analyzed using One-way ANOVA test.

The results showed that the administration of deltamethrin 0.26 mg/kgBW and cypermethrin 0.26 mg/kgBW did not significantly affect the relative reproductive organs weight and body weight gain of rats. The results of this study also showed that there is no significant difference in intratesticular testosterone levels of male Wistar rats between treatment groups.

Keywords : cypermethrin, deltamethrin, intratesticular testosterone, male Wistar rats