

[P-44]**Neonatal cypermethrin exposure shows estrogen-like effect on postnatal female rat development**

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Cypermethrin is one of the pyrethroids, synthetic derivatives of naturally occurring pyrethrins. Cypermethrin has been developed as an insecticide, and is now in worldwide use for control of a wide range of insects, providing potential for human exposure. Our previous study suggested estrogenic activity of cypermethrin. A chemical with hormonal activity could adversely affect reproduction and development. Very little is known about the developmental effect of cypermethrin throughout the world. This study investigated the the effect of neonatal exposure to cypermethrin on postnatal female rat development. Subcutaneous treatment with cypermethrin showed a tendency to accelerate in vaginal opening of female rat, but delay in preputial separation of male. In addition, cypermethrin-exposed male rats had significant reduction in anogenital distance, an external sign related to feminization of male at prepuberty. These effects were similar to 17-estradiol (E2), an estrogen used as a positive control. Furthermore, neonatal treatment with cypermethrin brought statistically significant increase in uterine weights, while it caused remarkable reduction in serum E2 concentration at prepuberty (on PND 18). On the other hand, Female rats with exposure to cypermethrin displayed smaller uterine weights and higher serum E2 concentration than did controls in diestrus. In addition, uterine ER mRNA expression levels were reduced at prepuberty (on PND18). In conclusion, our results indicate that neonatal exposure to cypermethrin shows estrogen-like effect on postnatal female rat development in several developmental parameters. Finally, We greatly appreciate the

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