Z702 **CHRONIC EFFECT OF 4-TERT-OCTYLPHENOL, ON THE APOPTOSIS OF TESTICULAR GERM CELL IN RAT**

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The present study was carried out to investigate the effects of chronic exposure of the primary alkylphenol breakdown product, 4-tert-octylphenol (OP), on the reproductive system in prepubertal male rat. The expressions of bcl-2 gene family members such as bcl-2, bcl-x, and bax were also evaluated. Prepubertal male rats were injected with estradiol valerate (EV; 0.8 mg) or OP (20, 40, or 80 mg) s.c. in olive oil three times a week for 1 month. All the three dosages of OP and the 0.8 mg of EV significantly decreased serum testosterone concentration and adversely influenced the sizes, weights, and histological structures of the testis, epididymis, and seminal vesicle in treated rats. The weights of hypothalamus, pituitary gland, and spleen were increased. Also, greatly reduced sperm production and decreased body weight gain were observed. Moreover, data from the reverse transcription polymerase chain reaction of the bcl-2 family members and from immuno-histochemistry by terminaldeoxynucleotidyl transferase-mediated dUTP-digoxigenin nick end labeling showed that apoptosis of testicular germ cell was increased by OP treatment. In conclusion, these results clearly demonstrate that OP severely impairs the function of the male testicular germ cells.

Z703 **The Effect of Some Endocrine Disrupting Chemicals on Mouse Testis Leydig cells(TM3) and Sertoli cells(TM4).**

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To assess the endocrine disruptive potency of some environmental contaminants on male reproductive tissue and function, were tested the effects of several known endocrine disruptors on the proliferation and morphology of mouse testis Leydig cells(TM3) and Sertoli cells(TM4). Diethylstilbesterol(DES), bisphenol A(bis-A), benzophenone, and 2-ethyl-hexyl-ester phthalic acid(DEHP) have an adverse effects on cell proliferation of TM3 and TM4. The chemicals inhibited cell proliferation up to near 40% on a dose-dependent manner in the range of 10-13 - 10-6M. On exposure to over 10-9M DES, their morphology of TM3 and TM4 became round-shaped from their original fibroblast-like shape. There were little change in cellular shape on exposure to bis-A, DEHP, and benzophenone. The cells were dead at the concentration of 10-5 mol of DES and 10-4M bis-A. These results suggest that the inhibition of the proliferation of testis Leydig and Sertoli cells by the chemicals may disrupt reproductive endocrine balance and in turn inhibit the normal development of male reproductive organ and sperm production.