[P-33]

Effects of Benomyl and Lindane during late pregnancy in the rat

Hyun Ju Moon[1], Jae-Ho Shin[1], Sujung Lee[1], Il Hyun Kang[1], Tae Sung Kim[1], Hoon Bae[1], Seung Yeoul Ryu[1], Ji Hyun Seok[1], Ji Yeon Ahn[1], Eui Bae Jeung[2] and Soon Young Han[1]

[1] Endocrine Toxicology Division, National Institute of Toxicological Research, KFDA, Seoul and

[2] College of Veterinary Medicine, Chungbuk National University, Chungju

These experiments tested whether exposure to benomyl (BN) or lindane (LD) during late pregnancy affect the development of reproductive tract in adult offspring. Timed pregnant Sprague Dawley rats (N=7~8/treatment) were gavaged with LD (1, 5, or 10 mg/kg), BN (50, 250, or 500 mg/kg), or corn oil on gestation days 15~19. Ano-genital distance (AGD) and parameters (sex ratio, the number of implantation sites and pups per litter, and viability) related to pups were measured during preweaning. At puberty, the onset of vaginal opening (VO) and estrous cyclicity in female and the day of preputial separation (PPS) in male were observed. Necropsy was performed on PND 22, 31, 41 and 61. Viability during PND 1~4 and the mean body weight during preweaning period were significantly reduced in both treatment groups compared to control. The AGD of male and female at PND 4 and 10 was increased in a dose-dependent manner in BN group. However, the pubertal parameters (PPS, VO, or estrous cyclicity) in male and female were not affected by the test materials. At female necropsy, LD treatment resulted in a significant reduction in the weight of ovaries at PND 61 and BN decreased the weight of uterus weight at PND 41. There were a significant reduction in the weight of Cowper's glands, Levator ani plus bulbocavernosus, and adrenal glands of BN group. These exposures during a critical period of organ development altered the weights of reproductive organs, which may contribute to the differences in development of the reproductive tract. (This work was supported by the grant from NITR/Korea FDA 2002-12 for Endocrine Disruptor Research)

Keyword : Benomyl, Lindane, rat, pregnancy