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**Comparative effects of bisphenol s and bisphenol a on the development of female reproductive system in rats; a neonatal exposure study**

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**B**isphenol A (BPA) has been well documented for its endocrine disrupting potential however, very little is known about endocrine disrupting abilities of bisphenol S (BPS). The present study aimed to compare the endocrine disrupting potentials of BPS with BPA, using female rats as an experimental animal model. On postnatal day 1 (PND 1) female pups born were randomly assigned to seven different treatments. Control group received subcutaneous injection of castor oil (50  $\mu$ L) from PND 1 to PND 10. Three groups of female pups were injected subcutaneously with different concentrations (0.5, 5 and 50 mg/kg in 50  $\mu$ L castor oil) of BPS, while remaining three groups were treated with 0.5, 5 and 50 mg/kg BPA. Highest doses treatments of both compounds resulted in delayed puberty onset and altered estrous cyclicity. Final body weight was significantly high in the highest dose treated groups of both BPS and BPA. Gonad somatic index, absolute and relative weight of uteri was significantly reduced in BPS (5 and 50 mg/kg) and BPA (5 and 50 mg/kg) treated groups than control. Plasma concentrations of testosterone and estradiol were significantly increased, while plasma progesterone, luteinizing hormone (LH) and follicle stimulating hormone (FSH) concentrations were significantly reduced in highest doses treated groups. Dose dependent increase in the number of cystic follicles in the ovaries was evident along with an increase in the number of atretic follicles. The results suggest that neonatal exposure to higher concentrations of BPS can lead to BPA like structural and endocrine alterations in female rats.

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