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The effects of progesterone administration in mice during pregnancy on ovarian development and anogenital distance of the offspring (Article)

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Abstract

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Progesterone is highly used in pregnant women as therapeutic agent to maintain and support pregnancy. To explore the effects of progesterone usage all over gestation till 7 days postnatally on mice offspring ovaries development and anogenital distance. Ten pregnant mice were equally divide into control group that was injected with sesame oil which is used as a solvent for progesterone and treated group that is daily intraperitoneally injected with progesterone (dissolved in sesame oil 1:10) at dose 10.2mg/kg (the equivalent human dose) all through gestation till 7 day postnatal then sacrificed and measuring the anogenital distance (the distance between anus and genital papilla). Histological slides were prepared, and Diameters of the ovary, primary oocyte and primordial follicles were measured and histopathological changes analysis was done. Progesterone administration cause significant increment ($p > 0.05$) in anogenital distance, significant decrement in primary oocyte diameter and primordial follicle diameter, with no significant difference in the ovary diameter. Histopathological changes were seen as hemorrhage, detachment of follicular cells from basement membrane with irregular arrangement and thickening or death of follicular cells, pyknosis of primary oocytes and vacuolation. Stromal cells degeneration. The current study revealed that progesterone injection of mice with equivalent human dose during pregnancy is embryotoxic and teratogenic, may alter the female reproductive performance with virilizing the female genitalia. The benefit of progesterone as a therapies need to be proven before recommended as supportive treatment during pregnancy. © University of Dicle.

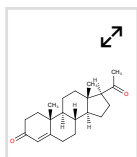
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