

合成エストロゲンによるマウス生殖器官の遺伝子発現変化

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新生仔期のマウスに合成エストロゲン(DES)を投与すると、子宮の多層化や不可逆的な膣上皮の角質化がおこり、こうした現象には臨界期があることが知られている。そこで、0、5、60日齢でDESを投与し、子宮と膣で発現変化する遺伝子についてDNAマイクロアレイ法を用いて調べた。その結果、新生仔ではDESで誘導または抑制される遺伝子の数は子宮、膣ともに成熟マウスの1/10と少なかった。また、これら遺伝子の種類を調べると5日齢の子宮膣で既に1/5が成熟マウスと共通していた。

Gene expression analysis by microarray in uterus and vagina of neonatal mice exposed to diethylstilbestrol

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Mice exposed neonatally to diethylstilbestrol (DES) show disorganized uterine myometrial layers, uterine adenocarcinoma and stratification and cornification of vaginal epithelium. These reproductive abnormalities are induced by estrogens when exposed within a critical window. The molecular mechanism of these abnormalities, however, remains unknown. Thus, we examined global gene expression in uterus and vagina of 0, 5 and 60-day-old mice 6h after DES injection by microarray analysis. Number of induced or repressed genes by DES revealed 10-fold less in neonatal mouse uterus than those of adults. In vagina, number of genes exhibited expression change by DES in neonatal mouse vagina was also smaller than those of adults. In 5-day-old mice, number of genes expression by DES were 1/5 of genes of adult vagina. Thus, gene response to DES in uterus and vagina are increased with age. Genes affected in neonatal period may be related to abnormalities in reproductive tracts.