these steroids with $\Delta I/\Delta S$ during oral glucose administration.

417. Effect of Aminoglutethimide on Androstenedione Aromatase Activity in Human Uterine Myoma

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The incidence of uterine myoma is highest among benign uterine tumors. The origin of uterine myoma is under debate but the growth of the tumor is dependent upon estrogen. The authors have reported that uterine myoma possesses androstenedione aromatase (estrogen synthetase) activity and its enzyme activity is significantly higher than that in uterine myometrium. Aminoglutethimide (AG) is well known to be an inhibitor for aromatase activity of human placenta or human breast cancer. AG is used as an endocrine therapy for patients with advanced breast cancer. This study was planned whether or not AG suppresses androstenedione aromatase activity in human uterine myoma.

Uterine myoma microsome (30 mg of protein) was incubated with [6,7-^{3}H]-androstenedione (100 pmol) and NADPH in the various concentration of AG (0, 10 nM, 1 μM, 100 μM) at 37°C for 1 hr in air. After stopping the enzyme reaction by ethyl acetate, [4-^{14}C]-estrone and [4-^{14}C]-estradiol were added in the incubated sample. The ethyl acetate extract was subjected to Bio-Rad AG1-X2 column, thin layer chromatographies and co-crystallization.

Aromatase activity in uterine myoma microsome was suppressed significantly by the addition of AG (inhibitory rate; 12-75% and 26-75% for 10 nM-AG and 1 μM-AG, respectively). These results may show that the growth of uterine myoma is suppressed by a placental aromatase inactivator.

418. Localization and Periodic Change of 17β-Hydroxysteroid Dehydrogenase in Human Uterine Cervix

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17β-HSD (hydroxysteroid dehydrogenase) activity was measured by incubating 25 μM of ^{14}C-estradiol-17β with an 800×g supernatant of human uterine cervical tissues and excess NAD at 37°C for 60 min under ambient air. The cervix obtained by hysterectomy was divided into columnar cell component, squamous cell component and connective tissue. The 17β-HSD activity was found to have linear relation with incubation time up to 120 min and with protein concentration up to 0.25 mg/ml. The apparent Km value was 2.0×10^{-6} M. The enzymatic activity, expressed as pmol of products formed per hour and per mg of protein, showed 49.1 ± 8.9 pmol/mg protein/hour (mean ± SE), in columnar cell component, 16.5 ± 2.3 squamous cell component, and 9.0 ± 1.0 in connective tissue at proliferative phase (n=5), and 42.8 ± 6.6 in columnar cell component, 12.2 ± 2.3 in squamous cell component, and 10.6 ± 1.6 in connective tissue at secretory phase (n=6). It showed a marked increase in the columnar cell component at both phases ($p<0.01$). While no significant difference was found among the different phases of the menstrual cycle.

419. Ultrastructural Study on the Development of the Cervical Epithelium in the Human Fetal Uterus

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Prenatal development of the cervical epithelium was studied morphologically in 12 uteri obtained from human fetuses between 14 and 40 weeks of gestation.

By 15 weeks, the cervical epithelium was lined by pseudostratified columnar epithelium. The epithelium began to fold from 16 weeks, and by 21 weeks several cleft-like glandular structures were formed. At 40 weeks the glandular structures lined by tall columnar cells with basally situated nuclei were observed.

Ultrastructurally, the columnnar cells at 15 weeks had centrally located nuclei and subnuclear glycogen deposit. By 18 weeks cytoplasmic organelles were well developed, and glycogen deposit in the subnuclear region became conspicuous. From 21 weeks, the apical cytoplasm containing glycogen began to protrude toward the lumina, resembling apocrine secretion. At 26 weeks this secretory activity became maximal and decreased at 31 weeks. At 40 weeks, the cells showed typical features of mucin-producing cells.

Morphologically, fetal cervical epithelium was con-