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ing substance(s) may be induced transiently by progesterone and plays a role in cell synchronization in both HeLa-S_3 cells and human endometrium.

181. Experimental Studies on Spontaneous Occurrence of Uterine Adenocarcinoma

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Anovulatory sterility is considered one of the major high-risk factors of endometrial hyperplasia and adenocarcinoma in humans. Although hormone imbalance characteristic of anovulatory sterility appears to be the cause of endometrial carcinogenesis, direct evidence for this explanation has not been obtained. The rate of spontaneously occurring of endometrial hyperplasia and adenocarcinoma is extremely low in rats, as compared to the rate in old rabbits. In Sprague-Dawley rats, uterine tumors were detected in only 25 (0.9%) of 2723 female rats at 600 to 800 days of age. Neither was atypical hyperplasia or adenocarcinoma of the uterus noted in these reports. We therefore set up an animal model of anovulatory sterility in Sprague-Dawley rats and compared the spontaneous occurrence of uterine tumors in the anovulatory sterile rats with that in normal control rats for the fairly long period of more than 2 years. Two atypical hyperplasias and 2 adenocarcinomas were detected in 25 androgen sterilized rats (ASR) after 500 days of age. In contrast, in 111 normal control rats (NR) no abnormal uterine proliferation was detected during a 750-day observation period. These results indicate that a persistence of both hormone imbalances and dysfunctional uteri in ASR induces abnormal uterine proliferation at a late age.

182. Effect of Human Lymphoblastoid Interferon on Human Yolk Sac Tumors Xenografted in Nude Mice

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The effects of human interferon on human tumors were examined. The tumors were human yolk sac tumors of the ovary heterotransplanted in BALB/C female nude mice, designated as YST-1 and YST-2. These tumor cells preserve the characteristics of a yolk sac tumor of the ovary and were capable of producing α-fetoprotein (AFP). Human lymphoblastoid interferon (IFN) (S.A. 1.2×10^7 U/mg protein) was administered intraperitoneally to tumor-bearing mice. IFN was administered under schedules as follows: ① 1.0×10^5 U/kg/day × 21 days (YST-1) ② 1.0×10^6 U/kg/days × 21 days (YST-1) ③ 1.0×10^6 U/kg/week × 3 weeks (YST-1) ④ 1.0×10^6 U/kg/days × 8 days (YST-2). The effect of IFN on tumor growth was only recognized in the mice treated under schedule ② statistically. The ratio of T/C (treated tumor/control tumor) in weight was 36.0 and the ratio of T/C in volume was 45.5. The coefficient of correlation between tumor volume and AFP of mice was 0.55 in YST-1 tumor and that was 0.42 in YST-2 tumor. No remarkable histological changes were observed in the treated tumors. According to our results, the effectiveness of IFN in suppressing the tumor growth was respected.

183. An Electron Microscopic Study on the Histogenesis of Androblastoma (Leydig Cell Tumor) —Cytochemical Localization of 3B-Hydroxysteroid Dehydrogenase Activity and Light Microscopic Dry-Mounting Autoradiographic Localization of ^{3}H-Cholesterol in the Leydig Cell Tumor—

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A case of a virilizing ovarian Leydig cell tumor in a 38 year-old woman with a marked elevated plasma testosterone level was investigated using light microscopic dry-mounting autoradiography and electron microscopic cytochemistry. Following total abdominal hysterectomy and bilateral salpingo-oophorectomy, the plasma testosterone level decreased abruptly. Light microscopic dry-mounting autoradiography for ^{3}H-cholesterol showed silver grains were mainly localized over the cytoplasm of the tumor cells. In the Leydig cell tumor were three different cell types: fibroblast-like cells, Leydig cells (steroid-secreting cells) and transitional cells (partially or incompletely

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