histological type and its sensitivity.

MMC was effective on moderately differentiated type and adeno-squamous cell carcinoma.

CDDP was effective on well differentiated type and adeno-squamous cell carcinoma.

MTX and CTX were effective only against adeno-squamous cell carcinoma.

ADM, BLM, 5-FU, DM and VLB were effective on all of the types.

These data suggested that the established tumor cells which are generally considered 'homogeneous' showed 'heterogeneity' at cell level on histological and chemosensitivity examinations.

100. Response Indicator of Chemo-endocrine Therapy for Endometrial Cancer by Colony-forming Assay

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Endocrine therapy for metastatic and recurrent endometrial cancer has been useful in most cases without severe side effects, but gives response rate of 30% in those patients. Some endometrial cancer which was not responsive to endocrine therapy, may have some responsiveness to chemotherapy. This study was designed to investigate the efficiency of chemo-endocrine therapy by colony-forming assay, which has been useful for sensitivity test of anticancer drug. Colony-formation of dispersed endometrial cancer cells was inhibited by 10^{-6} M medroxyprogesterone acetate (MPA) in 13 of 15 cases for 20%-inhibition, and in 8 of 15 cases for 30%-inhibition. Colony-formation of endometrial cancer cells was much more inhibited with both chemotherapeutic agents (cisplatinum, adriamycin, 5-fluorouracil, 4-hydroperoxy cyclophosphamide) and MPA than with chemotherapeutic agents alone. This was observed in all 7 cases examined. Endometrial cancers, which were not responsive enough to MPA, may have some responsiveness to chemotherapeutic agents alone. Chemo-endocrine (combined with chemotherapeutic agents and MPA) therapy may have an additive effect on the regression of such an endometrial cancer.

101. Intercellular Connection of Uterine Adenocarcinoma as a Radioresistance Factor

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Intercellular connection of uterine adenocarcinoma cells grown as spheroid was studied comparing to radioresistance. HEC-59 (uterine corpus adenocarcinoma) and SKG-3a (uterine squamous cell carcinoma) were used. The spheroids were produced by Yuhas's method.

In monolayer culture, D_0, D_q and n values in hit theory were as follows: HEC-59 (D_0=1.6 Gy, D_q=0.6 Gy, n=1.5), SKG-3a (D_0=1.3 Gy, D_q=0.4 Gy, n=1.4). As spheroids with 300 μm in diameter, survival curves of SKG-3a cells demonstrated a biphasic curves after acute irradiation. HEC-59 cells did not demonstrate the second component. This proved that SKG-3a spheroid has more hypoxic element than HEC-59 one. The ratio of Total-Curable-Dose-50 were as follows: HEC-59 sphroid=15 Gray, SKG-3a=13.5 Gray.

Where both cells grown as spheroids with 300 μm in diameter were fractionately irradiated. SKG-3a spheroids were disintegritied up to 63 Gray at total dose but HEC-59 kept as spheroids over 70 Gray.

The total dose of 50% disintegrity was 40 Gray in SKG-3a and 48 Gray in HEC-59 spheroids.

In conclusion, important factors for aquisition of radio-resistance in adenocarcinoma cells as a solid tumor under fractionated irradiation.

102. Immunohistochemical Detection of the Placental Form of Glutathione S-transferase in Dysplasia, Carcinoma *in situ*, and Invasive Carcinoma of Human Uterine Cervix

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Localization of human placental form of glutathione S-transferase (GST-π) in the displasia (53 cases), carcinoma *in situ* (10 cases), and invasive carcinoma (46 cases) of human uterine cervix was examined using light and ultrastructural immunohistochemical methods. GST activity was assayed towards 1-chloro-2,4-dinitrobenzene and GST-π content was determined by single radial immunodiffusion on 4 squamous cell carcinomas and 1 normal uterine cervix. The results obtained were as follows: 1. Normal epithelium was hardly stained. 2. In mild and