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STUDY ON THE PLASMA CEA LEVELS IN THE UTERINE MALIGNANCIES. C.Tobari, H.Kurosawa, K.Muroi, S. Noguchi, H.Watanabe and T. Ohmura. Dept. of Radiol. and Dept. of Obstet. Gynecol. TOHO Univ., Tokyo

This paper was examined the plasma CEA levels in gynecological malignancies at before and after the surgical operation and radiation therapy. Forty cases after divided into the clinical stage were studied the plasma CEA levels measured in clinical laboratory.

The plasma CEA levels in gynecological malignancies was 25% (10/40) before the operation and 15% (2/13) after the operation. The most positive cases was the cervical cancer but a little positive cases in the body cancer.

In the evaluation of the pathological finding, the squamous cell carcinoma was very frequent as positive result. In the clinical stage of cervical cancer, the plasma CEA levels was noted 0/3 in the stage 0, 0/3 in the stage I, 1/8 in the stage II, 5/12 in the stage III and 2/5 in the stage IV.

The plasma CEA levels in the cervical cancer was significantly increased according to the clinical stage and decreased after the operation and radiation therapy.

As these results, high usefulness of the CEA levels in gynecological malignancies was considered especially in the cervical cancer and indicated one of the marker in the clinical stage of cervical cancer.

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CLINICAL SIGNIFICANCE OF SIMULTANEOUS MEASUREMENT OF SERUM CEA AND BETA<sub>2</sub>-MICROGLOBULIN IN PATIENTS WITH CANCER. A.Suzuki, M.Ishizawa, Y.Komatsu, Y.Sakata, T.Kon, T.Itoh, T.Deto and S.Tomita. Hirosaki University School of Medicine, Misawa City Hospital, Goshogawara Seihoku Hospital. Hirosaki, Misawa and Goshogawara.

There are numerous reports on serum CEA levels in patients with cancer, but few on correlation between serum CEA and beta<sub>2</sub>-microglobulin (beta<sub>2</sub>-MG) levels. Seventy-one patients with cancer and 37 patients without cancer were studied by RIA method (CEA, DAINABOT, beta<sub>2</sub>-MG, Pharmacia). The results were as follows; the average values of CEA were  $4.30 \pm 7.74$  (ng/ml, mean  $\pm$  S.D.) in all subjects (n=194),  $4.98 \pm 8.44$  in patients with cancer (n=157) and  $1.39 \pm 1.27$  in patients without cancer (n=37). that of beta<sub>2</sub>-MG was  $2.23 \pm 1.53$  (ug/ml),  $2.33 \pm 1.64$  and  $1.80 \pm 0.735$ , respectively. The average value of CEA in patients with cancer showed significant increase ( $p < 0.001$ ) and that of beta<sub>2</sub>-MG also showed significant increase ( $p < 0.005$ ) compared with that of patients without cancer. Among the various cancer, the patients with cancer of stomach, colon and lung showed significant increase in CEA levels ( $p < 0.001$ ,  $p < 0.05$  and  $p < 0.05$ ) and those who with cancer of lung and pancreas showed significant increase in beta<sub>2</sub>-MG levels ( $p < 0.05$  and  $p < 0.01$ ) compared with patients without cancer. Correlation between CEA and beta<sub>2</sub>-MG was significant in all subjects ( $p < 0.05$ ), but not significant in other categories.

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STUDIES ON CHARACTERISTICS OF CEA. T.MIYAZAKI, J.KAKISAKI, Y.KAJITA, T.HACHIYA, M.YOSHIMURA, M.HAMAZU, Y.OCHI and S.HOSODA. Kyoto Prefectural University of Medicine and Shiga University of Medical Science. Kyoto and Otsu.

The salting out using ammonium sulfate, heat stability, the purification method using DEAE-Cellulose and gel-filtration of CEA were studied. When <sup>125</sup>I-CEA (Roche or CIS) containing NHS was treated with 50% ammonium sulfate, the solubilized radioactivity was about 48-65%. By the similar salting out of CEA positive serum CEA amounts in the solubilized fraction determined by Roche, CIS and Dainabot was about 60%, 58% and 83% respectively. When CEA positive serum was fractionated at pH 7.2 by gradient elution in DEAE-Cellulose, CEA was mainly eluted from 0.1 to 0.4M NaCl.

By the treatment of CEA positive serum with 85°C for 10 min, the supernatant fraction contained about 50% of the total CEA amounts. When PCA extracted fraction of metastatic liver tumor was fractionated by Sephadex G-200 column, CEA was found between void volume (1st peak) and 4S fraction (2nd peak).