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MEASUREMENT OF CYTOSOL ESTROGEN RECEPTOR IN HUMAN BREAST CANCER USING I-125 LABELED ESTRADIOL. Y.Iida,Y.Tokuda,K.Arai,K.Kasagi, J.Konishi, K.Torizuka and H.Kodama. Kyoto University School of Medicine and Kodama Clinic, Kyoto.

It is well-known that there is a highly association between the presence of estrogen receptor(ER) and the likelihood of response to endocrine therapy in the patients with breast cancer. H-3 labeled estradiol(E2) has been used as a tracer for radioreceptor assay. Because of the low specific activity and the nature of beta-emitter of H-3 labeled E2, I-125 labeled E2 was developed. The binding of I-125 labeled E2 to cytosol fraction of human breast cancer tissue showed a saturation curve and gave linear Scatchard plot. The ER number could be estimated correctly in the cytosol protein concentration of 3.0 - 5.6 mg/ml. The tissue could be stored for at least 7 days at -20 C and -80 C without loss of ER activity. The intra-assay variances were 4.1 - 12.5 % and the inter-assay variances were 37.2 - 39.4 %. There was a significant correlation between ER numbers measured by I-125 labeled E2 and those by H-3 labeled E2 in 61 cases ($r=0.826$, $p<0.001$). Taking the cut-off line at 5 fmol/mg, the correlation of coincidence was 90.2 %. The radioreceptor assay using I-125 labeled E2 was a simple and useful method to measure estrogen receptor in human breast cancer tissue.

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USEFULNESS OF SERUM TPA AND CEA AND BONE SCINTIGRAPHY IN PRE- AND POSTOPERATIVE PATIENTS OF BREAST CANCER. E.Tohno, N.Ishikawa,K.Nakajima,M.Akisada and Y.Aiyoshi.University of Tsukuba,Institute of Clinical Medicine,Sakura mura,Niihari.

Elevation of serum TPA and CEA is not frequent in preoperative patients of breast cancer especially in early stage.But in recurrent patients,positive rates of them are 56% and 44% each.Combination assay is more sensitive and positive rate of it is 81%.Bone metastasis is frequent and bone scintigraphy is useful to detect it.

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ADVANCED CEA IRMA USING MONOCLONAL ANTIBODY

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CEA is well known as one of the most useful tumor markers for in vitro diagnosis. However, on the other hand, a problem is pointed out that values among available kits are unexchangeable due to the heterogeneity of CEA molecule, especially sugar portion and/or cross reaction with CEA related antigens.

Advanced CEA IRMA is reported, utilized three different monoclonal antibodies(MCAs) which recognize different antigenic determinant of protein portion, selected from 146 different MCAs which were reported by Matsuoka et al previously. This CEA IRMA system keeps homogeneous reactivity with different CEA preparations with little affect of structural heterogeneity of sugar and related antigens.

This new IRMA is easy to operate with a few hours incubation and gives reliable CEA values. 50 ul sample is used directly without any treatment such as extraction or heat treatment. Simultaneous procedure gives measurable dose upto 100 ng/ml and two step procedure upto 500 ng/ml. This new IRMA is useful for routine diagnostic purpose.

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RADIOIMMUNOASSAY OF NEURON-SPECIFIC ENOLASE IN SERUM OF PATIENTS WITH LUNG CANCER. T.Nakasuji, M.Tanahara, Y.Toyota, M.Takada, T.Kitano, Y.Fukunaga, T.Miyagawa. Osaka Prefectural Habikino Hospital.

To assess the value of the NSE as a tumor marker of lung cancer, serum levels of NSE were determined by radioimmunoassay using NSE-Eiken RIA Kit. The mean ± 2SD of 65 healthy subjects was 6.6± 3.4ng/ml, therefore more than 10.0ng/ml was considered positive. The mean NSE levels and positive rate of 83 patients with lung cancer were 39.8ng/ml and 61.4%, respectively. According to the histologic type of lung cancer, the mean NSE levels and positive rate were 15.1ng/ml, 36.4% in 11 squamous cell ca. 10.5ng/ml, 17.4% in 23 adeno carcinoma, and 59.1ng/ml, 87.7% in 49 small cell ca. In small cell carcinoma, serum NSE levels were significantly ($p<0.05$) higher in extensive disease (87.8ng/ml) compared to those of limited disease (23.9ng/ml). In small cell carcinoma, NSE levels before and after chemotherapy were measured. In patients who were responded to chemotherapy serum NSE levels decreased from 26.7 to 6.7ng/ml, however, in patients not responded, from 42.6 to 22.8ng/ml. In 5 patients whose NSE were measured successively, elevation of NSE levels were observed corresponding to clinical recurrence. We considered that NSE is a useful tumor maker of small cell ca.