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SERUM FERRITIN LEVEL IN PATIENTS WITH VARIOUS MALIGNANT DISEASE AND HEALTHY INDIVIDUALS. A.Iio.M.Kawamura.S.Tanada.M.Ishine.H.Mogami.M.Kataoka,N.Sumoto and K.Hamamoto. Department of Radiology, Faculty of Medicine Ehime University. Shigenobu.

Ferritin concentration in the human serum was measured by radioimmunoassay. Mean  $\pm$  standard deviation (SD) of ferritin level of 21 healthy males was  $102 \pm 58$  ng/ml and that of 24 healthy females was  $22 \pm 12$  ng/ml. Mean  $\pm$  2SD of ferritin values of the males and females were used as upper limit of normal values, i.e. 218 ng/ml in male and 46 ng/ml in female.

Percentage of abnormally high value in 7 patients with Basedow's disease, 6 patients with chronic thyroiditis, 8 patients with diabetes mellitus and 8 patients with liver cirrhosis were 0, 50, 0 and 75% respectively. Percentage of abnormally high value in 26 malignant lymphomas, 4 parotis cancers, 3 larynx cancers, 26 lung cancers, 13 esophagus cancers, 13 stomach cancers, 9 hepatomas, 6 breast cancers, 13 uterus cancers and 4 bladder cancers were 46, 0, 0, 58, 38, 54, 44, 83, 85 and 25% respectively. Among these patients, relatively higher values were observed in patients with remote metastasis.

Significant positive correlation of serum ferritin and  $\beta_2$ -microglobulin levels ( $n=89$ ,  $r=0.51$ ,  $p < 0.01$ ) was observed in these patients, whereas no significant correlation ( $n=88$ ,  $r=-0.03$ ) was observed between ferritin and CEA levels in these patients.

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THE CLINICAL UTILITY OF SERUM FERRITIN LEVEL IN PATIENTS WITH MALIGNANT TUMORS. N.Mitsuhashi.A.Okazaki.K.Havakawa.T.Nakano.N.Aoki.H.Niibe and T.Nagai. Department of Radiology, Gunma University, School of Medicine. Maebashi.

During a 6-month period from January 1980, to June 1980, the serum levels of Ferritin in 188 patients, including 173 patients with various malignant tumors (47 with Breast cancer, 41 with pulmonary cancer, 18 with Cervical cancer, 16 with Carcinoma of the head and neck, 14 with Malignant lymphoma, etc.) and 15 with various non-malignant diseases, and 32 healthy subjects were determined at the Department of Radiology, Gunma University, School of Medicine. The normal levels of Ferritin were  $82.7 \pm 42.3$  ng/ml and  $42.0 \pm 36.9$  ng/ml in 15 males and 17 females respectively. Thus, we defined that the upper limit of normal for males was 200 ng/ml and for females, it was 150 ng/ml.

The positive ratio of serum Ferritin level was 28% in the patients with malignant tumors, 27% in the patients with non-malignant diseases. So, the usefulness of serum Ferritin assay in screening for malignant tumors appeared to be limited.

It was interesting that malignant lymphoma had high serum Ferritin level in spite of its low serum CEA level. Carcinoma of the digestive organs except for esophagus were thought to have normal serum Ferritin levels in spite of advanced stage.

Serial serum Ferritin determinations may be useful for evaluation of radiotherapy and assessment of prognosis.

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EVALUATION OF T3 MEASUREMENT BY THE NEW RIA KITS USING SOLID PHASE METHOD. S.Kosuda, A.Kubo,F.Kinoshita,A.Maekawa. Dep. of Radiology, Keio University School of Medicine and Dep. of Radiology, Ohkubo Municipal Hospital, Tokyo.

SPAC T3 kit (tube coating) and Amerlex T3 kit (latex polymer particle coating) are the new T3 RIA kits using solid phase method, have been evaluated and compared with T3 RIA kit I (polyethylene glycol method) and Gammacoat T3 kit (tube coating). The results of each kits showed high coefficients of correlation among them ( $r=+0.96 \sim +0.99$ ) and thyroid function compatible with various thyroid diseases. However, SPAC T3 and Amerlex T3 kits showed slightly high values than T3 RIA kit I and Gammacoat T3 kit in various state, especially in euthyroid. T3 values in euthyroid by T3 RIA kit I, Gammacoat T3 kit, SPAC T3 kit and Amerlex T3 kit are respectively  $121.2 \pm 16.2$ ,  $108.2 \pm 19.3$ ,  $152.1 \pm 22.6$ ,  $157.3 \pm 20.2$  ng/dl. The comparison of four kits revealed the difference between the values of each control serum. Standardization of every control serum is hoped.

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RADIOIMMUNOASSAY OF FREE THYROXINE: COMPARISON OF THREE ASSAY METHODS. K.TOGASHI, M.MOCHIDA, K.SUDO, T.ISHIGAMI, AND S.SATO KITASATO BIOCHEMICAL LABORATORIES (BRISTOL MYERS). SAGAMIHARA, KANAGAWA

When free T4 (FT4), which plays physiologically an important role, has to be measured by RIA, it is necessary to solve the problem on how to selectively extract FT4 from blood plasma in which T4-TBG complexes are present. We have studied and compared three kinds of FT4 RIA kit: 1) Liquisol (Damon) which utilizes microcapsule for separation of FT4 from T4-TBG complex, 2) GammaCoat (Clinical assays) which utilizes specific antibody for FT4 and preincubation for separation of FT4 from T4-TBG complex, and 3) Immophase (Corning) which determines the kinetic rate of T4 binding to the antibody. Based on the results of these studies, it is our conclusion that satisfactory results for clinical usefulness can be obtained with these three kits although the assay principles are different.