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CLINICAL EVALUATION OF PLASMA FERRITIN IN PATIENTS WITH MALIGNANT TUMOUR. D.Tsujino. Y.Sasaki.H.Henmi.R.Chida.K.Someya and K. Shibata. The 3rd Department of Internal Medicine,St.Marianna University School of Medicine and Hoechst Japan Ltd.Pharmaceutical Division,Section of Radioisotopes. Kawasaki and Tokyo.

The Clinical usefulness of measuring plasma ferritin levels was studied using immunoradiometric assay kits supplied by Hoechst (Japan). A total of 418 samples were measured in 38 normal controls, 97 patients with benign diseases and 98 patients with malignant tumours. The results can be summarized as follows.

1. In normal controls, mean plasma ferritin level was 159.9 ng/ml in males and 51.4 ng/ml in females.
2. Plasma ferritin levels were elevated in 39% of 98 patients with malignant tumors as well as in some of benign diseases, especially in liver diseases. The elevation of the ferritin levels was in the same range.
3. Transit postoperative elevation of plasma ferritin levels was observed both in malignant and benign diseases, which is a disadvantage in the postoperative study of malignant tumors.
4. Elevation of plasma ferritin levels during premortal period was significantly higher in patients with malignancies than in patients with benign diseases.

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FOUNDAMENTAL EVALUATION ON THE DETERMINATION OF SERUM FERRITIN BY SPAC FERRITIN KIT. Y.Yonahara.Y.Takahara and Y.Sasaki. The 2nd Tokyo National Hospital,Tokyo.

This paper describs our experiences in foudamental studies and clinical datas with a SPAC Ferritin KIT. The concentration of ferritin in the serum depends on several factors:the concentration of tissue iron, the rate of release of ferritin from the tissues and the rate of removal of ferritin from plasma. Therefore,serum ferritin to iron status may be overshadowed by variation due to abnormal production and release of ferritin and possibly by various plasma clearance. A standard curve was slightly sigmoid in the range from3.I25 to 800ng/ml. When the same sample was analyzed in duplicate to check reproducibility, the coefficient of variation was low, and this method was thought applicable to be the clinical quantitative determination of ferritin in serum by 2-sitesimmunoradiometric assay. Serum ferritin levels was a relative-high degree of correlation with UIBC more than TIBC. Mean value in healthy men is 94.7+92. 7ng/ml in 24 cases, and healthy women is 62.3+52.4ng/ml,respectively. Iron deficiency anemia(25cases) is 5.4+5.6ng/ml,aplastic anemia(II cases) is 4I8.4+I67.2ng/ml, maligngant lymphoma(8 cases) is 206.I+208.5ng/ml, CML (4 cases)is I80.5+78.5ng/ml, stomach ca (IO cases) is 32.4+35.0ng/ml, breast ca(8 cases)is 2I.5+I4.2ng/ml, metastatic lung ca (8 cases)is 336.5+259.7ng/ml,non-metastatic lung ca(3 cases) is 82.9+35.7ng/ml.

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COMPARATIVE EXAMINATION OF FERRITIN RIA-KITS AND THEIR CLINICAL USE F.Yoshimura, Y.Takahashi, S.Shimoji and S.Hamada. Nuclear Medicine and Hematology, Tenri Hospital, Tenri, Nara.

Four kinds of imminoradiometric kit to measure serum ferritin level were comparatively examined. They were supplied by four respective laboratories,i.e., R-, D-,M- and H-laboratory. In the nature of standard curve, recovery, reproducibility and linearity, fundamental difference was not noticed among them except in H-lab.-kit in which remarkable hook-effect was noticed in high dose level. Calibrated values by this kit were two to three times those by other kits of the same samples. Among R-, D- and M-lab.-kits, correlation coefficients of dual measurement values of the same sample were between 0.94 and 0.98 and regression coefficients were nearly 1.0. A series of standard samples of one lab. was measured by another lab.-kit. The calibrated value on the latter standard curve did not necessarily coincide with designated one in some pairs. With accessible coincidence, normal range was determined as 20 to 86 in 47 male and 6 to 42 ng/ml in 49 female using R- and D-lab. kits. Deficient state and its improvement were also followed before and along iron administration in iron deficient anemias in comparison with serum iron, TIBC, sideroblast and hemosiderin in RE cell in the marrow. High value was observed in leukemia, lymphoma and other malignant desease probably as a tumor marker in some extent.

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CLINICAL EVALUATION OF SERUM FERRITIN ON DIAGNOSIS OF VARIOUS TUMORSIN GI TRACT. Y.Yumoto, T.Wada, K.Tokuyama, K.Jinno, H. Yamamoto, M.Morita, Y.Kondo. National Shikoku Cancer Center. Matsuyama,Japan.

Serum ferritine levels were estimated and clinical evaluation was discussed in patients with liver diseases and GI tract diseases. Mean values±SD of serum ferritin in normal male and female were 57.6± 43.8, and 28.4±23.0 ng/ml respectively. Resroducibility of the SPAC ferritin KIT is good, and also in dilution test. In 43% of the patients with LC, 50%of Hepatitis, 74% of hepatoma, 67% of metastatic liver tumor, 38 % of gastric cancer, 25% of colon and pancreatic cancer and 87% of biliary malignanttumor, abnormal values of serumferritin were obtained. In the patients with CH and AH, significant correlation between serum ferritin and serum GOT activities was observed. In patients with Hepatoma and metastatic liver tumor, correlation between serumferritin concentration and AFP levels or CEA levels was negative and significant high values of serum ferritin levels was observed inpatients with hepatoma with low concentration of serum AFP levels(200 ng/ml). Significantly high values of serum ferritin were obtained in the cases with hepatoma whose tumor was 4X4 cm in diameter.

No significanse correlation between serum ferritin levels and CEA levels was observed in cases with primary and metstatic liver tumor.

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