
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 summarised 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 postoperative period was significantly higher in patients with malignancies than in patients with benign diseases.

COMPARATIVE EXAMINATION OF FERRITIN RIA-KITS AND THEIR CLINICAL USE.


Four kinds of immunoabsoradiometric kit to measure serum ferritin level were comparatively examined. They were supplied by four respective manufacturers: D.I., 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 followed by oral and long-term administration in iron deficient anemia in comparison with serum iron, TIBC, sideroblast and hemosiderin in R.Ecell in the marrow. High value was observed in leukemia, lymphoma and other malignant disease probably as a tumor marker in some extent.

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

This paper describes our experiences in fominal usefulness and clinical data 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 variations due to abnormal production and release of ferritin and possibly by various plasma clearance. A standard curve was slightly sigmoid in the range from 125 to 800 ng/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-site immunoradiometric assay. Serum ferritin levels was a relative-high degree of correlation with UIBC more than TIBC. Mean value in healthy men is 94.7±9.7 ng/ml in 24 cases, and healthy women is 62.3±5.2 ng/ml respectively. Iron deficiency anemia (25 cases) is 5.4±5.6 ng/ml, aplastic anemia (II cases) is 418.4±167.2 ng/ml, malignant lymphoma (8 cases) is 206.4±205.5 ng/ml, OM (4 cases) is 180.5±78.5 ng/ml, stomach ca (10 cases) is 32.4±35.0 ng/ml, breast ca (8 cases) is 21.5±14.2 ng/ml, metastatic lung ca (6 cases) is 336.5±297.7 ng/ml, non-metastatic lung ca (3 cases) is 82.9±35.7 ng/ml.

SERUM FERRITIN LEVELS AND SERUM G0T ACTIVITIES IN PATIENTS WITH LIVER TUMOR. Y.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 of serum ferritin in normal male and female were 57.6±43.8, and 28.4±23.0 ng/ml respectively. Resonability of the SPAC ferritin KIT is good, and also in the dilution test. In 436 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 malignant tumor, abnormal values of serum ferritin were obtained. In the patients with CH and AH, significant correlation between serum ferritin and serum G0T 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 patients with hepatoma whose tumors was 4X4 cm in diameter. No significant correlation between serum ferritin levels and CEA levels was observed in cases with primary and metastatic liver tumor.