
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. Translational 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 the follow-up period was significantly higher in patients with malignant diseases than in patients with benign diseases.

COMPARATIVE EXAMINATION OF FERRITIN RIA-KITS AND THEIR CLINICAL USE

Four kinds of immunoradiometric kit were used to measure serum ferritin levels and were comparatively examined. They were supplied by four respective laboratories, Nihon Medlaboratories, Nihon Medlab and Nihon Med-Hlaboratory. The nature of standard curve, recovery, reproducibility and linearity, fundamental difference was not noticed among them except in Nihon Medlab 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 Mlab.-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 daily ferritin determination in iron deficient anemia in comparison with serum iron, TIBC, sideroblast and hemosiderin in RBC in the marrow. High values was observed in leukemia, lymphoma and other malignant disease probably as a tumor marker in some extent.

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

This paper describes our experiences in fundamental studies 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 tissues and the rate of removal of ferritin from plasma. Therefore, serum ferritin to iron status may be overshadowed by variation of release and production of ferritin and possibly by various plasma clearance. A standard curve was slightly sigmoid in the range from 3.425 to 8000ng/ml. When the 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 was 94±92.7ng/ml in 24 cases, and healthy women was 62.3±52.4ng/ml respectively. Iron deficiency anemia (25 cases) is 5.4±5.6ng/ml, aplastic anemia (II cases) is 418.4±167.2ng/ml, malignant lymphomas (8 cases) is 206.4±205.5ng/ml, CH (4 cases) is 150.5±78.5ng/ml, stomach ca (IO cases) is 32.4±35.0ng/ml, breast ca (8 cases) is 21.5±14.2ng/ml, metastatic lung ca (8 cases) is 336.5±259.7ng/ml, non-metastatic lung ca (3 cases) is 82.9±35.7ng/ml.


Serum ferritine levels were estimated and clinical evaluation was discussed in patients with liver diseases and GI tract diseases. Malignant tumors were examined 50 of D-M- and H-laboratory. In the nature of standard curve, recovery, reproducibility and linearity, fundamental difference was not noticed among them except in Nihon Medlab 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 Mlab.-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 daily ferritin determination in iron deficient anemia in comparison with serum iron, TIBC, sideroblast and hemosiderin in RBC in the marrow. High values was observed in leukemia, lymphoma and other malignant disease probably as a tumor marker in some extent.