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CLINICAL USEFULNESS OF SERUM FERRITIN-IRON RATIO IN PATIENTS OF MALIGNANCIES. S. Nishino, Y.Uekita, Y.Kikuchi, A.Asano, J. Hirose, K.Hayasaka, S.Nishibu, H.Mitsuhashi, K.Amoh Department of Radiology, Asahikawa Medical College & Hospital. Asahikawa

Serum ferritin, iron and CEA were measured in 30 normal subjects and 287 cases of malignancies consisted of uterine cervix, esophageal, head and neck, lung cancers and malignant lymphomas. Then clinical significance of serum ferritin-iron ratio was analyzed. The distribution of the ratio in normal subjects were almost below 1.5 and in malignancies the ratio was significantly higher level in its mean value and also in advanced cases than in early cases. Supposed that the ratio over 1.5 was abnormal value, the positive rate of the ratio was higher than serum ferritin alone and CEA in each malignant disease. The elevation of the ratio was correlated with serum ferritin level and in advanced cases attributed to the decrease of serum iron level. Because the serum iron affected the ratio, it was suggested that the ratio might be one of the parameters that represented the changes of local and general conditions; bleeding, nutritional status and affection to the iron metabolism, etc. So we considered that the ratio was useful to distinguish advanced cases from early cases and evaluated the changes of local and general conditions. However the ratio was not correlated with serum CEA in almost malignancies.

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COMPARATIVE STUDY OF MEASUREMENTS OF SERUM FERRITIN VALUES AS TUMOR MARKER BY SEVERAL IMMUNORADIOMETRIC ASSAY KITS. M. Ohishi, M. Yoshimura and O. Koshimura Department of Radiology, Shizuoka Central Prefectural Hospital. Shizuoka

Serum ferritin values are measured in 40 various carcinomatous patients and are compared with the values obtained from 72 normal subjects by five kinds of immunoradiometric kits: RIA gnost, DAINABOT, Spac, CIS and KAKEN. The values obtained by each kit showed a wide distribution in each of the following diseases: hepatoma and the cancers of the stomach, the esophagus, the pancreas, the colon, the ovary, the breast and the lung. The values obtained from patients with hepatoma and the cancers of the pancreas, the ovary, the breast, the renal cell and the renal pelvic cell, were markedly elevated. Then, it is considered that it is useful for us to determine serum ferritin level in these diseases, and that both hepatic and splenic ferritin or both hepatic and placental ferritin must be determined in patients with the cancers of the stomach, the esophagus, the prostate and the lung. In consequence, as the values obtained from a carcinomatous patient are variable by the several measurements of serum ferritin, it is necessary to show the name of the used kit.

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SERUM FERRITIN CONCENTRATION IN MALIGNANT TUMORS. THE SITUATION IN THE MULTI-PARAMETRIC DIAGNOSIS METHOD. T.Hoda, T.Ishigami, and S.Sato Kitasato Biochemical Laboratories Bristol Myers KK. Sagamihara

We have determined the sensitivity of serum ferritin in the diagnosis of malignant tumors, and compared this with those of other tumor markers, CEA, AFP, BMG, and 5'-NPD-V. The diagnostic usefulness of combined tests of these markers were also studied. The specimens examined were taken from 148 healthy subjects, 274 patients with malignant tumors, and 58 patients with benign diseases. While a sensitivity of ferritin in liver cancer was high enough (86%), it showed relatively a low sensitivity in gastric (36%) and in colon/rectum cancer (26%). Thus serum ferritin exhibited the high sensitivity in a cancer of parenchyma organ, as reported hitherto. This tendency is in marked contrast to CEA which shows a relatively high sensitivity in colon/rectum cancer. We have already reported the usefulness of 5'-NPD-V as a tumor marker both in hepatoma and metastatic liver cancer. Serum ferritin showed the high sensitivities in these cancers and gave positive results in some cases with negative 5'-NPD-V, and vice versa. The utilization of these two markers in combination gave the results of significant increment in the sensitivity for liver cancers. In the present condition the combination of plural tumor markers seems to offer useful information in the diagnosis of cancer, because there's no biochemical markers which afford a sufficiently high sensitivity independently.

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CHARACTERISTICS OF SERUM CEA LEVELS IN LUNG CANCER PATIENTS. K.Fukuda, T.Nakasuji, S.Kimura, Y.Fukunaga, T.Kitano, M.Takada, T.Takao and A.Ichinowa Osaka Prefectural Habikino Hospital

In this experiment cases of lung cancer in which surgery was performed while in the early stage (stages I through III) were measured for serum CEA, and characteristics of cases exhibiting various levels of CEA were noted. Serum CEA levels were measured for all pathological tissue types throughout the course of treatment. A higher proportion of adenocarcinoma cases exhibited high levels of CEA than was found in other tissue types, such as squamous carcinoma. Pre-treatment adenocarcinoma cases were tested for N-factors, and it was found that serum CEA levels in  $N_0$  group were significantly lower than those in  $N_1, 2,$  and  $3$ . Also, cases for which post-operation prognosis were good were correlated with changes in serum CEA levels for these cases. In cases where pre-operation levels were high, the number of these cases where the levels decreased to normal (2.5ng./ml. or less) 2-3 weeks after operation was extremely small. However, cases which did exhibit this decrease in levels had better prognosis than those which did not. Cases which exhibited low levels from pre-operation onwards also had good prognosis.