CLINICAL SIGNIFICANCE OF MEASURING CARCINOEMBRYONIC ANTIGEN(CEA) BY RADIOIMMUNOASSAY (3rd.REPORT).--FACTOR THAT AFFECTING PLASMA CEA LEVELS OF PATIENTS WITH NON-MALIGNANT DISEASES--

TAKAO MURAI*, MORIO MASAKI*, REIJI KASUKAWA* and MASARU SAITO**

*Department of 2nd. Internal Medicine**Radioisotope Research Division, Fukushima Medical Collage.

Since discovery of CEA by Gold in plasma of patients with gastrointestinal cancer in 1965, there is no question concerning its clinical usefullness and significance. However, its reliability is still controversical because of its faulse positive in plasma of patients with non-malignant diseases. Therefore, we attempted to clarify the factors which may affect plasma CEA levels of benign diseases. The CEA levels of 318 plasmas of patients with benign diseases were measured and serial examinations were performed in 141 patients with benign liver diseases along with liver function tests. Plasma CEA levels were measured by a Radioimmunoassay using Z-Gel method of CEA-Roche Kit. The CEA levels over 2.5ng/ml were considered to be CEA positive and the levels over 5ng were considered to be CEA high titers. In 54 benign gastric diseases, a mean of plasma CEA level was 2.65+ 1.49ng/ml, 33% of which were CEA positive and 9% were CEA high titers. A mean level of plasma CEA and percents of CEA positive and CEA high titers were 3.71+2.98ng/ml, 50% and 17% in 12 benign bowel diseases, 2.72+1.5lng, 53% and 6% in 17 choledoco-pancreatic diseases, 3.17+1.70ng, 59% and 16% in 141 benign liver diseases respectively. The percents of CEA positive cases were about 40% in allergic, metabolic and neurologic diseases, about 30% in circulatory, hematologic, respiratory and genitourinaly diseases, and 18% in healthy adults. A mean CEA levels in healthy adults was 1,55+0.88ng/ml. In serial examinations of patients with benign liver diseases; acute hepatitis, chronic inactive hepatitis, chronic active hepatitis and liver cirrhosis, mean CEA levels were 2.67+1.31, 3.09+1.77, 3.17+2.36 and 4.58+ 1.87ng/ml respectively, CEA positive cases were 53%, 63%, 48% and 77%respectively and high CEA titer cases were 7%, 8%, 23% and 42% respectively. Therefore, an existance of correlation was observed between plasma CEA levels and intensity of liver injury. However, no-correlations was obseaved between plasma CEA levels and liver function tests (transaminase and alkaline Phosphatase value, colloidal reaction and ICG tolerance test). Therefore, it was sugested that is unknown mechanismus in the CEA metabolism in liver.

STADY ON IMMUNOREDIO METRIC ASSAY OF FERRITIN IN UROLOGIC DISEASES

Akira Kido*,Masahiro Iio*,Hideo Yamada*, Toyohei Machida**,Makoto Miki**,Yukihiko Ohoishi**,Tadamasa Sasaki**,Masataka Ueda**, Munetoshi Yanagisawa**

*Department of Nuclear Medicine and Radiological Scine,Tokyo Metropolitan Geriatric Hospital,**Department of Urology, Jikei University School of Meidcine,Tokyo.

Serum ferritin was determined by IRMA method in 88 cases of urologic diseases,24 cases of other diseases and 17 cases of normal control.

Stability of ferritin Kit was evaluated by recovery test,dilution test and erproducebility. Recovery ratio was excellent showing mean ratio of 93%. Comercial control serum NMS-IIa showing 306ng/ml and stock serum showing 1808ng/ml(serum from renal cell carcinoma)were diluted from 2X to 64X using on diluent in the Kit. Control serum NMS-IIa showed excellent dilution pattern,however in stock serum,dilution curve reveald so colled"high dose hook effect"in which binding is decreased rather than showing equilibrium in high concentration. The reproducibility was excellent showing average coefficient variation of 9% in test serum and 3% in NMS-II.

The mean serum ferritin level from men was 110±42ng/ml(n=9)and from women was 57±29ng/ml(n=7).

Mean values of serum ferritin were 289±355 ng/ml(n=24)in renal cell carcinoma,122±50ng /ml(n=12)in transitional cell carcinoma,165 ±49ng/ml(n=27)in prostate cancer,185±42ng/ ml(n=4)in UTI,90±56ng/ml(n=5)in renal tuberclosis and 139±8ng/ml(n=5)in renal cyst.

Mean value of other disases,however,were 160±43ng/ml(n=10)in lung cancer,103±66ng/ml (n=4)in gastric cancer,59±40ng/ml(n=3)in rectal cancer and 14±8ng/ml(n=3)in anemia.

Incidence of positive test was highest(46%) in renal cell carcinoma.

Value of ferritin and CEA in serum were poorely correlated(r=0.34). Therefore it might be concluded that cmbined determinations of both CEA and ferritin in serum are useful for detection of cancer.