

77

UROLOGICAL SIGNIFICANCE OF RIA PSTI MEASUREMENT. Y.Ohishi, T.Machida, M.Ueda, A.Kido, T.Tashiro, T.Wada, S.Torii and F.Yoshigoe. Department of Urology, The Jikei University School of Medicine, Tokyo.

In this report we discuss a study of the level of the PSTI in various malignant tumors of the urogenital tract. The material include 187 cases of malignant tumor and 23 cases of benign diseases. Serum PSTI was measured with radioimmunoassay method using a PSTI RIA kit Shionogi. In 52 (27%) of 187 cases of malignant tumor, the PSTI was found to be equal to or more than 20ng/ml. When the untreated malignant tumor groups were classified according to their stages, the PSTI reached equal to or more than 20 ng/ml in 12 (16.3%) of 74 cases of early cancer, and in 26 (40%) of 65 cases of advanced cancer. A PSTI level of more than 20 ng/ml was observed in 15 (35.7%) of 42 renal cancers, in 5 (41.7%) of 12 pelvic tumors, in 14 (23.7%) of 59 bladder cancers and in 17 (31.5%) of 54 prostatic cancers. No

In summary, no significant tumor specificity was confirmed in the level of serum PSTI, invalidating its use as a tumor marker. The PSTI level was correlated with the progress of the tumor, however, and could prove to be a good marker of the progress of the tumor and its prognosis. Particularly in renal cancers or in bladder cancers, which lack specific tumor markers, the management of serum PSTI is useful for detecting the relapse of or for evaluating the clinical courses of such cancer.

78

STUDIES ON THE MEASUREMENT OF PLASMA ATRIAL NATRIURETIC POLYPEPTIDE WITH HANP KIT "Eiken"

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The plasma levels of ANP was measured in eighteen children with idiopathic nephrotic syndrome (INS) and five children with chronic renal failure (CRF) on maintenance hemodialysis (HD). The assay of ANP was performed using HANP kit (Eiken).

In INS, ANP was significantly lower during edematous condition compared to the condition without any edema (53.8 ± 18.4 Pg/mL VS 85.6 ± 21.9 Pg/mL, $p < 0.01$). In CRF, ANP was elevated markedly before HD and decreased significantly after HD (544.3 ± 403.2 Pg/mL VS 151.7 ± 79.0 Pg/mL, $p < 0.01$), but higher than controls (77.9 ± 23.0 Pg/mL, $p < 0.01$).

These results suggested that the circulating blood volume was decreased during edematous state in INS and increased in CRF before HD. ANP will be an important marker to evaluate the condition of blood volume-overload.

79

FUNDAMENTAL STUDY AND CLINICAL EVALUATION ON RADIOIMMUNOASSAY OF HUMAN ATRIAL NATRIURETIC PEPTIDE (hANP).

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We established a highly sensitive RIA for measuring hANP concentration in unextracted plasma and urine. An antiserum was obtained from rabbits immunized with α -hANP (1-28). The cross-reactivities with α -rat ANP and α -hANP (7-28) were 100%. The lowest level of hANP practically detected to be about 0.3 pg. The CVs were under 10%. Plasma and urinary hANP concentrations in healthy subjects were 31.7 ± 12.0 and 26.0 ± 12.6 pg/ml using 0.1 ml of plasma and urine as the specimen, respectively. With saline infusion and furosemide loading, the change of plasma hANP concentrations was revealed to depend on volume expansion. Fractional excretion of hANP during this loading remained below 1.5%. In patients with chronic renal failure who did not receive chronic hemodialysis, plasma hANP concentrations and fractional excretion of hANP were significantly higher than those in the healthy subjects.

This new and highly sensitive method without troublesome extraction process made the urinary hANP measurement possible for the first time. This becomes the powerful aids for the study of hANP secretion and metabolic mechanisms.

80

FUNDAMENTAL AND CLINICAL EVALUATION OF SERUM CK-B CONCENTRATION RIA KIT IN ACUTE MYOCARDIAL INFARCTION. R.Sato, S.Iwasaki, K.Kuwabara, H.Goto, H.Yamada, H.Niitani. The Third Department of Internal Medicine, Showa University School of Medicine.

We reported fundamental and clinical evaluation of serum CK-B concentration using radioimmunoassay (RIA) in acute myocardial infarction (AMI). Sera were collected from 54 healthy subjects, 42 patients with AMI (first attack of AMI). This method could measure for 120 min. at room temperature. The coefficient of variation of intraassay and interassay were 3.8-5.8% and 5.0-6.3%, respectively. The recovery was around 103.1%. CK-B concentrations of diluted serum were shown linear to 32 times. The cross reactivity between anti-CK-B antibody and myoglobin, albumin, or hemolysis was absent. The mean CK-B concentration was 4.63 ± 1.73 (S.D.) ng/ml in normal subjects. In 42 patients with AMI excluding patients treated with PTCA, CK-B concentrations were high immediately after the attack. Those measured by RIA disappeared earlier by immunoinhibition (IH) method. We concluded that RIA was useful when the activity measured by IH method was low and serum was hemolysis.