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CLINICAL FACTORS HAVING AN EFFECT ON THE VALUE OF SERUM PROSTATIC ACID PHOSPHATASE. M. Miki, T. Machida, Y. Ohishi, M. Ueda, A. Kido, M. Yanagisawa, M. Yoshida and J. Morikawa Department of Urology, Jikei University School of Medicine and Eiken ICL. Tokyo.

In a previous paper it was shown the clinical value of Radioimmunoassay (RIA) for prostatic acid phosphatase (PAP). The variation of serum PAP levels by manipulation of prostate was studied. Specimens were obtained in 1, 3, 5, 12, 24 and 48 hours after manipulation, prostatectomy, trans urethral resection, needle biopsy and prostatic massage. Prostatectomy, trans urethral resection, biopsy and prostatic massage gave rise to the elevation of serum PAP levels. The highest value of serum PAP in prostatectomy was 80 ng/ml, 511 ng/ml in trans urethral resection for benign prostatic hypertrophy, 5900 ng/ml in biopsy for prostatic carcinoma and 7.9 ng/ml in prostatic massage. The elevated values decreased to the pre-manipulation levels in 24 hours in 80% of patients with benign diseases. These results suggest that specimens for PAP RIA have to be obtained before manipulation of prostate.

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MEASUREMENT OF PROSTATIC ACID PHOSPHATASE BY USE OF PAP "NEN" RIA KIT. T. Masuoka, Y. Masuda, H. Ookawa and Y. Kiryu Department of RI, Nippon Kokan Hospital. Kawasaki

Prostatic acid phosphatase (PAP) has been widely used as a tumor marker of the diagnosis and therapeutic evaluation of prostatic carcinoma and numerous studies have been performed as to the measurement of this enzyme. We had the opportunity to evaluate the "NEN" RIA Kit with excellent sensitivity used double antibody method and report the results of the study. (Result) With regard to the basic examinations such as sensitivity, precision, reproducibility, dilution test and hemolytic effect, satisfactory result was obtained. Positive correlation to the enzymic method, TASP and PASP was demonstrated by the correlation coefficient, 0.69 and 0.79, respectively. The mean value of PAP of normal male subjects was 1.4 ± 0.62 ng/ml which, except for prostatic carcinoma, failed to show the significant difference as compared with the mean value of benign prostatic hypertrophy and non-prostatic malignancies. Considerably high level of PAP was observed in the prostatic carcinoma with metastases evidenced by bone scan. In conclusion, this Kit can be envisioned to have the excellent specificity to PAP and clinical utility.

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SERUM FERRITIN LEVEL(SFL) FOR ESTIMATING THE EFFECT OF THE RADIOTHERAPY. K. Nakamura, T. Nakagawa, N. Shinoda and M. Taguchi Department of Radiology, School of Medicine, Mie University. Tsu

SFL was evaluated as a marker for estimating the effect of the radiotherapy. The SFL was determined by a radioimmunoassay (SPAC Ferritin kit) in sera obtained from 37 patients with various malignant neoplasms before and after the radiotherapy. The changes in the SFL were investigated in comparison with various clinical findings. The judgment for significant changes in the SFL was made by the sensitivity which is a difference value necessary to discriminate two value at confidence level of 95%. Out of 11 cases with clinical evidence of distant metastasis, the SFL was decreased in only one case (9%) and increased or unchanged in the rest. On the other hand, out of 26 cases without evidence of metastasis it was decreased in 9 cases (35%) and unchanged in 12 cases (46%). The SFL was either decreased (64%) or unchanged (36%) in all the 11 cases with operation prior to radiotherapy, while out of 26 cases without operation it was decreased in only 3 cases (2%). In all 5 cases with radiosensitive tumors as judged by tumor size, the SFL was either decreased (40%) or unchanged (60%). Out of 28 cases with radio-resistant tumors, it was decreased in only 4 cases (14%). All of the results indicate that serial measurements of the SFL is useful for estimating the effectiveness in radiotherapy.

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SERUM β_2 -MICROGLOBULIN AND FERRITIN AS A MONITORING TEST IN RENAL TRANSPLANTATION. J. Yamagata, K. Ota, K. Sato and H. Demura Kidney Center, Department of Radioassay, Tokyo Women's Medical College, Tokyo

The β_2 -microglobulin (β_2m) is a low molecular weight globulin released by nucleated cells, freely filtrated through the GBM and almost completely reabsorbed and catabolized by the proximal renal tubules. Increment in serum β_2m prior to a rise of serum Cr seemed to be a useful monitor for acute rejection in renal transplantation, but it rises in inflammation and liver disease, also. Recently serum ferritin is known to rise in inflammatory or malignant diseases as well. Daily serum β_2m and ferritin were measured by radioimmunoassay in relation to acute rejection in 21 renal transplant (15 living related, 6 cadaveric donors). Acute rejection episodes were diagnosed 23 times in 21 patients, and elevation of β_2m occurred 19 times (82.6%) prior to the elevation of Cr, remaining 4 times (17.4%) on the same day. Meanwhile ferritin retained within normal range in 12 episodes (52.2%), out of 7 patients with high ferritin level (more than 1000 ng/ml) 2 developed to graft loss. In 6 cadaveric donors, 5 patients could have good renal function within one month after renal transplantation, and β_2m fell below 40 $\mu\text{g/ml}$ almost a week before recovery from the acute tubular necrosis.