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BASIC STUDY OF SIMULTANEOUS ASSAYS OF VB12 AND FOLATE BY NO-BOIL RIA. Y. Takahara, A. Ishibashi, J. Sato, M. Nakamura, Y. Yonahara (National Second Hospital), S.Hosoda (National Hospital Kurihama)

Studied basic features of No-Boil RIA kit (Corning) which is developed for simultaneous measurements of VB12 and Folate, and 1F Blocking antibody is also studied in addition to this study.
Results: 1) Intraassay-reproducibility: 2.84 -5.25% for both, 2) Recovery tests: 91.0-108.9%, 3) Dilution tests: excellent linearity at 0 concentration, 4) Effect of temperature for both VB12 and Folate decrease as the temperature went up, 5) Effect of hemolysis of sample: B12 - no variation, Folate -highly increase by hemolysis, 6) Effect by using serum, EDTA-2Na plasma and heparin plasma. The results showed a little high values for VB12, Folate in plasma, 7) Correlation vs, Dual Assay: r=0.93(VB12) r=0.92(Folate), 8) Mean value:

B12 - Male (101): 493.86 ± 184.9 pg/ml
Female(134): 552.25 ± 220.06 pg/ml
Folate - Male : 4.10 ± 1.47 ug/ml
Female : 4.75 ± 1.26 ug/ml

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EVALUATION OF DIGOXIN DOSAGE REGIMEN AND CLINICAL APPLICATION ON THE BASIS OF PHARMACOKINETIC PRINCIPLE BY DIGOXIN STAT ASSAY. K.Kashiwada, K.Kida, K.Someya, K. Masuhara, K.Shinozaki, S.Arai, A.Sato, T. Sakaki, Y.Sasaki. St. Marianna University School of Medicine, Kawasaki, and Toho University School of Medicine, Tokyo.

The stat assay of serum digoxin concentration was performed using 0 and 2.0ng/ml standard serum with shortened incubation time. The results of the stat assay corresponded with the complete assay.

Three to six days after start of digoxin therapy, one point of the digoxin concentrations was measured. Using this results, the digoxin concentration at steady state was caluculated by clinical pharmacokinetics method. It was compared to serum digoxin concentration measured at steady state. In thirteen cases, the caluculated digoxin concentrations were similar to the measured serum digoxin concentrations and correlation coefficiency was 0.82.

In 23 patients, 9 males and 14 females, 42-91 y.o.(average 67.9 y.o.), 3 atrial fibrillations, 6 valuvular diseases, 5 ischemic heart diseases, 4 cor-pulmonales, 3 cardiomyopathies and 2 others, digoxin dosage regimen was performed

In this experiments, 2 patients were inadequately digitalized, 18 patients were therapeutic and 3 patients were toxic at steady states.

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STUDY ON STABILITY OF VERY SMALL QUANTITY SUBSTANCES IN SERUM --- 1. STABILITY OF POOL SERUM AT ROOM TEMPERATURE ---. M. Usami. Nuclear Medicine Clinical Laboratory, Faculty of Radiology, Okayama Saiseikai General Hospital.

When serum is preserved, denaturation of its components is unavoidable from chemical changes such as oxydation, hydrolysis and photolysis; reaction of enzyme; denaturation of protein and so on. In order to look for the preservation method and period which minimize these influences, we studied the preservation of pool serum under following conditions: (1) at room temperature (2) repeat of freezing and thawing (3) freezing.
Result:
Contrary to our expectations, as shown below, some serum components were denatured in 2-3 days, or some were unaffected in assay value in completely lotten serum preserved more than 2 months at room temperature. (1) denatured in 2-3 days: folic acid (2) denatured within 10 days: T4, IRI, CPR, AFP (3) denatured within 20 days: TBG, TSH, BMG (4) stable for 1-2 months: T3V, VB12, CEA, IgE, Ferritin, Elastase I.
(We have not obtained the results from "repeat of freezing and thawing" and "freezing", so they will be reported in the next contribution.)

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CARRYING OVER OF SERUM USING AUTOMATIC PIPETTES ON THE IN VITRO ASSAYS. H.Muraki,A.Onozuka,Y.Tani, K.Ogawa,M.Nakazawa,S.Niizuma,K.Sato and K.Tsutsui. Cancer Center Niigata Hospital. Niigata.

We have studied about carrying over of serum using automatic pipette for serum dispense on the in vitro assay. We have tried following test using automatic pipettes of Micro Medic Systems Inc. (1) After dispensing 500µl of serum including I-125 Anti-HBs(16×10^4cpm) and 500µl of buffer solution, repeat dispensing 500µl of normal serum. (2) With sera containing high and low values of peptides, after dispensing 500µl of serum and buffer solution for CEA, or 20µl of serum and 300µl of buffer solution for AFP, 25µl, 500µl for T_3, 100µl, 500µl for Insulin , repeat dispensing normal sera. Result:(1) I-125 Anti-HBs was found 3.4% in No.1 tube of dispensed serum, 0.4% in No.2, 0.1% in No.3, 0.04% in No.4. (2) In CEA assay, 52.7ng/ml was determained in No.1 tube, 0.7 in No.8, when with high values serum of 60.5 ng/ml. In AFP, the serum of No.1 tube contained high value of AFP 754.8ng/ml, 2.7ng/ml in No.4, when with serum of high level of 74.600ng/ml. There was no significant carrying over in the assays of T_3, Insulin and also no carring over with sera of low levels of CEA and AFP.

From the results mentioned above, it is nessesary to wash out remained serum in the nozzle using 10 times volume of buffer solution of serum, before aspiration of next samples, in the assays of Anti-HBs, CEA and AFP.