

## B. In Vitro Assays

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EVALUATION ON THE DETERMINATION OF  $\beta$ -THROMBOGLOBULIN BY  $\beta$ -TG RIA KIT(2ND REPORTS). Y.Yonahara.Y.Sasaki and Y.Takahara. The 2nd Tokyo National Hospital, Tokyo.

Preliminary clinical investigation revealed that this assay may have potential use for the diagnosis of thrombo-embolic disorders.  $\beta$ -TG is released from  $\alpha$ -granule of platelets, when platelets undergo their release reaction. Therefore, an increase in  $\beta$ -TG is considered as a marker of activation of platelets in circulation or of hypercoagulable state. There may remain a possibility that these data do not always reflect release of  $\beta$ -TG within the circulation, but only exhibit release of this protein at the site of venepuncture for the collection of blood, and  $\beta$ -TG is liberated during the preparation of platelet poor plasma in vitro (so called platelet dust phenomenon). Because technical processing of the collection of samples were correctly carried out.

Mean value in healthy over 55 age is  $28.1 \pm 15.6$  ng/ml in 16 cases, respectively. Cerebral infarction (18 cases) is  $97.2 \pm 46.8$  ng/ml, another cerebral vascular disorders (21 cases) is  $34.9 \pm 19.7$  ng/ml, hyperlipemia (15 cases) is  $41.7 \pm 33.4$  ng/ml, polycythemia (7 cases) is  $78.3 \pm 22.9$  ng/ml, CML (6 cases) is  $63.4 \pm 32.9$  ng/ml, autoimmune hemolytic anemia (1 case) is  $78.7 \pm 0.75$  ng/ml and aplastic anemia (9 cases) is  $9.5 \pm 8.4$  ng/ml. Bencyclane fumarate was administered to 13 cases 300mg/day. A statistically significant decrease in the level of  $\beta$ -TG in plasma observed after bencyclane medication.

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MEASUREMENT OF PLASMA BETA-THROMBOGLOBULIN -NORMAL VALUE AND EFFECT OF SELECTIVE ANGIOGRAPHY. A.Iio, M.Ishine, S.Tanada, M.Kawamura and K.Hamamoto. Ehime University School of Medicine. Ehime.

Plasma concentration of  $\beta$ -thromboglobulin ( $\beta$ -TG) which is released from platelet when blood coagulates was determined by using commercially available kit in patients with various disorders and normal controls. Reproducibility of this kit was examined by measurement of two kinds of plasmas with different  $\beta$ -TG level 3 and 5 times at different assay (between assay). Coefficient of variance were 38 and 31 per cent. Coefficient of variance obtained by 3 to 8 determinations of three plasmas on same day (intra-assay) were 24, 25 and 8 per cent. Mean  $\pm$  SD of plasma  $\beta$ -TG in 24 healthy adults of the age from 22 to 45 years was  $16.9 \pm 8.2$  ng/ml, whereas that in 10 individuals of the age from 68 to 85 years was  $16.6 \pm 6.2$  ng/ml. There was no significant difference of mean value between male and female, and young and old individuals. Beta-TG was also determined in 15 patients with various disorders immediately before and after selective angiography. There was a significant increase of the value after the angiography.

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FUNDAMENTAL AND CLINICAL ASSESSMENT OF THE  $\beta$ -THROMBOGLOBULIN RADIOIMMUNOASSAY KIT WITH SPECIAL REFERENCE TO DIABETIC MICROANGIOPATHY. T.NAKAI, H.ARAI, M.BABA and R.YAMADA. Clinical Pathology, DOKKYO University School of Medicine, Tochigi Prefecture.

$\beta$ -thromboglobulin represents a recently isolated platelet specific protein that is released during platelet aggregation. The sensitivity and precision of the  $\beta$ -thromboglobulin radioimmunoassay have been proved satisfactory.

Microangiopathy and vaso-occlusive disease are recognized complications of diabetes mellitus, and platelets are probably involved in the pathogenesis of these disorders. Therefore, plasma  $\beta$ -thromboglobulin levels were measured in blood samples from healthy control subjects and from diabetic patients with and without microangiopathic complications. The patients with retinopathy had significantly elevated  $\beta$ -thromboglobulin levels, as compared with both control subjects and the diabetic patients without microangiopathic complications. Thus, use of this parameter in the assessment of the risk of developing vascular change may become possible.

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THE MEASUREMENT OF FREE INSULIN, TOTAL INSULIN AND NON SPECIFIC BINDING USING COMMERCIALY AVAILABLE RIA KIT. I.Taguchi, H.Usuki, H.Yamamoto, K.Akita, M.Hayashi, T.Sengan. Mitsui Memorial Hospital, Tokyo.

We extract FI ( free insulin) and TI ( total insulin) from the patient whose NSB's value amounts to more than 10%. And we can fix FI and TI quantities by some improving the method recommended commercially available RIA kit. We can find the possible existence of insulin anti body and some of movement about insulin in the routine test.