ASSOCIATION BETWEEN PLASMA CONCENTRATION OF FACTOR VIII RELATED ANTIGEN, ABO BLOOD TYPE AND LEWIS BLOOD TYPE.
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Individuals with blood type 0 have a lower plasma concentration of factor VIII than individuals with blood type A. Since the Lewis blood type system and the ABO blood type system are related, we looked for a possible association between the plasma concentration of factor VIII and Lewis blood type.

Plasma concentration of factor VIII related antigen (FVIIIR:Ag) was determined by the Laurell electroimmunoassay in 333 individuals. These individuals were identical and fraternal twins who had been bled as part of a twin study on coagulation factors. The association between factor VIII and ABO blood type was confirmed since a significantly lower concentration of FVIIIR:Ag was found in individuals with blood type 0 (77%) than in individuals with blood type A (106%). Lewis blood type had no significant effect on the concentration of FVIIIR:Ag when the whole material was examined. Within individuals with blood type 0, a much lower concentration of FVIIIR:Ag was found in individuals with Lewis blood type Le(a-b-) (52%) compared to individuals with Lewis blood type Le(a+b-) (88%).

The possibility that individuals with blood type 0 and no Lewis antigens have a low plasma concentration of factor VIII may have implications for the detection of carriers of hemophilia A.

IDENTIFICATION OF VARIANT FORMS OF VIII:RAg IN VON WILLEBRAND'S DISEASE BY PLANIMETRIC ANALYSIS OF THE 2 DIE PATTERN. D. J. Bone. The Royal Free Hospital, Katharine Dormandy Haemophilia Centre & Haemostasis Unit, Pond Street, London NW3 2QG, UK.

Mathematical analysis of the antigen antibody precipitin arc produced by two dimensional immuno-electrophoresis (2 DE) was used to identify variant forms of von Willebrand's disease (vWD). 2 DE was performed on glass plates using rabbit precipitating antibody to human factor VIII related antigen (VIII:RAg) and barbitone electrolyte pH 8.4. After the plates had been dried and stained the results of optically standardised planimetry of the area beneath the precipitin arcs were used to plot histograms. These quantified the distribution of VIII:RAg into slow, slow intermediate, intermediate, intermediate fast, fast, and very fast mobility bands. Application of statistical analysis to the mobility bands showed a significant difference in VIII:RAg distribution from normal for each patient tested so far and between each patient (N = 30). Reproducibility was good on multiple testing of the same sample. Samples taken on different dates from the same patient revealed some variability but overall a similar distribution across the full range of mobility bands was preserved. The technique has revealed much greater variation in the phenotype of vWD than previously suspected and may be useful in classification of variants.