QUALITY CONTROL OF FACTOR VIII CONCENTRATES USING AN AUTOMATED DEVICE. A LONG-TERM STUDY.
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A F VIII quality control system must allow accurate and uniformly precised measurements. Accuracy depend both on assay method and on reagents. The "right answer" to a F VIII:c is undefined, so we can only control internal accuracy of the assay system by demonstrating that the result is unaffected by changes from one batch of reagent to another. Precision is affected by several sources of error. (e.g. pipetting, measurement of end point etc.) Automation allows great uniformity of these. Accuracy and precision also depend on the reference plasma. It is well established that assays of concentrate against concentrate are less variable than assays of concentrate against plasma. In this study we collected data from quality control assays of 437 batches of concentrate against frozen normal plasma (-150°C). Each assay also contained a single batch of cryoprecipitate stored under equal conditions. The assays were performed over 60 weeks during which time 6 batches of substrate plasma 2 batches of Cephotes and 7 normal plasma pools were used. The lamp used for optical determination of the end point was also changed once. Statistical analysis showed that the only major change of the results occurred when the normal plasma pools were changed. Otherwise the uniformity of the measurement was very good. The results strongly suggests the use of large batches of reference standards which may be calibrated against the international standard, and is preferable to the use of frozen normal plasma pools.

AN AUTOMATED ONE STAGE ASSAY TECHNIQUE FOR THE ROUTINE EVALUATION OF FACTOR VIII CONCENTRATES.
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There is a general need for a reliable automated F VIII assay system with a large capacity for block bioassays. We present a method fulfilling these requirements. A rebuilt device for APTT determinations based on an optically clear activator and an artificial F VIII deficient substrate plasma has been used continuously for 2 years. The substitution of hemophilia plasma by an artificial substrate plasma is a necessary feature for any satisfactory large scale automated system. There was no evidence of any differences between results obtained using this substrate and congenital deficient plasma. The reproducibility of the assay system was very good. (S.D. $\approx$ 10 %). And the results obtained by two different machines were indistinguishable. The results showed very good agreement between the relative potency estimates of known F VIII standards obtained with this method and those found at recent international collaborative studies. However, comparison of assay results of clinical F VIII preparations with estimates of in vivo recovery shows that this method estimates lower potency of the given concentrates. These finding is in accordance with several other studies, that has shown that different assay methods detect relatively differing activities in preparations of different purity. Since it is important that the labeled unitage of the clinical material should continue to produce the same measured in vivo recovery at the "Reference Hemophilia Centre" (Malmö, Sweden), we have calculated simple conversion factors to apply to the assay results eliminating the apparent differences.

LACKING SCHISTOCYTOSIS IN EXPERIMENTAL DISSEMINATED INTRAVASCULAR COAGULATION AFTER DEFIBRINATION BY PLASMIN. H. Heyes and B. Slijepcevic. Department of Obstetrics and Gynecology of the University of Ulm, Fed. Rep. of Germany.

A disseminated intravascular coagulation (DIC) was induced in rats by infusion of a subthreshold dose of thrombin after producing a hypercoagulable state by i.v. injection of ellagic acid. After pretreatment with a 90 min.-infusion of 50 cas.-u. of plasmin (= plasmin group) or normal saline (= control group) 20 mg AMCHA were applied i.v. for stopping fibrinolysis. Blood parameters of the control group revealed a typical constellation for DIC; additionally, it was observed a highly accelerated ^{131}I -fibrinogen catabolism and an accumulation of ^{131}I -radioactivity in lungs and kidneys accompanied by haemoglobinaemia and schistocytosis. In spite of the previous defibrination by plasmin, the plasmin group showed partly similar results; the deposition of radioactivity was not so impressive, though plasma haemoglobin levels were neither increased nor schistocytosis observed.

Considering the complexity of the presented experimental model, these results show that red cells are not fragmented to schistocytes in absence of fibrinogen because of missing fibrin strands, which probably cause the destruction of red cells in the small blood vessels.