
One of the earliest responses in the Arthus reaction to the injection of antigen is a transient thrombocytopenia which reaches a maximum in 15–30 min. This response is apparently associated with the platelet release reaction since it is inhibited by sulphinpyrazone, aspirin, phenylbutazone and indo-methacin but not dipiridamole or heparin. It has now been shown that two human metabolites of sulphinpyrazone namely p-hydroxy-sulphinpyrazone and the sulphone of sulphinpyrazone are equipotent with the parent molecule in inhibiting the thrombocytopenia and by inference the platelet release reaction.

The relative potencies of drugs measured in this way differ markedly from those measured in vivo. The relative potencies towards collagen equate with sulphinpyrazone (50 mg/kg) given 1 hour before challenge inhibits the thrombocytopenia by 78% but not collagen aggregation ex vivo. Aspirin (10 mg/kg) showed about the same potency in vivo and ex vivo with 47% and 50% inhibition, respectively. Phenylbutazone was less active in vivo than ex vivo. These results again serve to demonstrate the effect of anti-coagulants, particularly citrate, on platelet reactivity towards drugs and emphasize the need for sound in vivo methods.

THE APPLICATION OF THE PYRIMIDOPYRIDAZINE RA 233 FOR PLATELET TRANSFUSION. H.Reuter, H.Borberg and H.Lisker, Medizinische Universitatsklinik, Köln, FRG.

As an alternative for the buffy-coat preparation of platelets a combination of the continuous flow centrifugation with the single batch processing technique was examined. The use of the membrane stabilizing agent RA 233 has shown this procedure to be sufficiently useful for clinical application. The use of RA 233 made available platelet yields of about 10^12 platelets per blood donor. The drug was given in an amount of 100 mg I.v. to the blood donor and added in doses of 80 mg to each 50 ml plasma collection bag containing 10% ACD-A solution as an anticoagulant. From the platelet rich plasma the platelets were obtained by further concentration in a Christ IV KS blood bank centrifuge with 2,600 x g. As could be shown by transfusion of RA 233 prepared platelets to leukemic patients, the drug is reversibly bound to the platelet membrane. While during preparation platelet adhesion and aggregation are slightly inhibited by RA 233, the functional activity of the platelets is regained after transfusion. The survival of transfused 51Cr-labeled platelets prepared in the presence of RA 233 was found to be in the normal range.