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PREVENTION OF HAEMOLYSIS IN BLOODSTAIN GROUPING

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Kirk has referred to the difficulties encountered in bloodstain grouping owing to the presence of haemolytic agents encountered in the substratum of bloodstains and has described a preliminary attempt to nullify this effect by fractional precipitation of agglutinogens and interfering agents (1).

A technique is now available which is capable of completely off-setting non specific haemolytic effects (2). This technique as originally described used Group AB serum as an inert protein diluent for the antisera used in blood stain grouping instead of using isotonic saline as the diluent. By proceeding this way the activity of all levels of haemolytic substances normally found in bloodstains can be suppressed.

A small disadvantage of this technique is that AB serum frequently contains soluble A and B substances which reduce the titre of the antisera for anti A and anti B, sometimes markedly, and usually unevenly.

Recent work in this laboratory has shown that Bovine Albumin is an excellent substitute for AB serum in this technique. The level normally employed is 3%, i.e. a tenfold dilution of the 30% solution commercially obtainable (Poviet Produkten, Amsterdam (3)).

Apart from preventing haemolysis of the red cells it is theoretically more sound to carry out bloodstain grouping with antisera in which the antibody protein is as small a fraction as possible of the total soluble protein, so that non specific destructive and adsorptive phenomena have a proportionately smaller effect on the antibody molecules.

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