

THE NEWCASTLE UPON TYNE HOSPITALS NHS TRUST

THE FREEMAN HOSPITAL

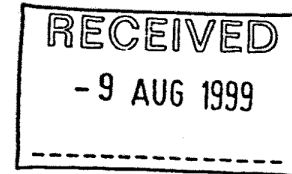
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DEPARTMENT OF HAEMATOLOGY

JPW/JT

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Dr A Robinson
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Dear Dr Robinson

Re Plasma Donors ? Untransfused Males

Thank you for your note about this. I enclose some letters and references explaining why I believe it would be beneficial to patients to collect all donations containing large volumes of plasma from untransfused males. I am aware at present that this would probably be impossible to apply to platelets as well.

With regard to use of whole blood I feel that this is an issue worthy of being revisited. Until recently the plasma was a valuable side product of blood donation, now that this is no longer so it may be time to reexamine the previous dogma. My feeling is that whole blood may be of considerable advantage where blood has been given for hypovolaemia and in situations where plasma expander might often be used in addition. Previous literature on use of FFP has often suggested that the coagulation defect from massive transfusion only arises after transfusion of 15 or more units. The majority of these papers looked at coagulation deficiency in patients receiving large numbers of units of whole blood, mixtures of whole blood and plasma reduced units, or reconstituted whole blood. Only one paper (Leslie and Toy) looks at the coagulation deficiencies induced by large volumes of plasma reduced or additive red cells being transfused. It is mistaken to believe that whole blood needs to be fresh to be beneficial. The only coagulation factors to decline with storage are factors V and factors VIII. Factor VIII declines most quickly and there is still significant amounts of factor V in older blood. During most bleeding episodes factor VIII is produced as a response to stress and it is well known that from cardiac surgery factor VIII levels are often higher post surgery than before despite considerable blood loss and dilutional coagulopathy. The recent analysis on the use of colloid expanders versus crystalloids in resuscitation did not look at the specific situation of cardiothoracic bypass, one of the areas where I feel whole blood might be useful.

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Despite the review our surgeons and anaesthetists are still using colloid and also using FFP for replacement of coagulation factors in those who bleed excessively. We should perhaps remember when looking at this review that there is probably even more damning evidence against red cell transfusion. On the whole though I try and limit this as much as possible I would be loathed to stop it on the basis of the sort of studies quoted by Roberts et al.

I would hope that the use of whole blood in cardiac surgery in particular and also in aortic aneurysm surgery, would lead to lower use of fresh frozen plasma. This would therefore reduce donor exposure. It has been suggested that the increased volume of plasma might lead to an increased chance of viral transmission or increase in the hypothetical risk of new variant CJD. The evidence that this might increase the risk of new variant CJD is purely on the basis of distribution of the normal equivalent of the protein. There is no data on the distribution of the abnormal and possible infective form of the protein nor is there evidence as to whether 250 ml of plasma (whole blood) would have significant greater infectivity than 50 ml plasma (plasma reduced blood). On the same basis I think that it is most unlikely that viral infectivity of a single unit would vary much given those 2 doses of plasma. The reduced exposure to donors for some patients might however be a significant advantage and we can easily calculate the decreased risk in such cases. Whether or not the panel thinks whole blood is of value I would still strongly press the case for all FFP units to be made from untransfused male donors. Given the money being spent on the theoretical risk of CJD transmission I would strongly urge the NBA to bring in a policy that would probably cost nothing and could probably demonstrably save a number of lives per year. I look forward to the results of your deliberations.

Yours sincerely

GRO-C

J P Wallis
Consultant Haematologist

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