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Transfusion Reactions: Investigations.

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If a *haemolytic* transfusion reaction is suspected, what investigations can be performed by the hospital's own Blood Transfusion Department, either *before*, or *instead of* sending samples to NHSBT?

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If it is a suspected *acute haemolytic* transfusion reaction, particularly if it is fatal, NHSBT should be involved immediately.

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If, however, it is a suspected *delayed haemolytic* transfusion reaction, there are tests that be performed at the "home" laboratory that may save time and *MONEY*.

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NHSBT investigates well over 200 suspected haemolytic transfusion reactions *per* year, the vast majority of which are negative, and most of which could have been resolved by the hospital's Blood Transfusion Laboratory.

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Amongst the first things to do is to establish the patient's symptoms.

- If, for example, there is only signs of a skin rash, it is unlikely to be a DHTR, and a full work-up is not required.
- If, for example, there is a rise in temperature, and *only* a rise in temperature, it is unlikely to be a DHTR, and a full work-up is not required.

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Amongst the first things to do is to establish the patient's symptoms.

- If, for example, there is some, but not overwhelming, evidence of a DHTR, such as an unexpectedly low increase in haemoglobin concentration, then, of course, some sort of work-up is required, but not necessarily a full work-up.

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Under such circumstances.

- It is certainly worthwhile checking the ABO and D typing of both the pre- and post-transfusion samples, and to perform a DAT on both.
- Only if the ABO and/or D types differ (unless it is known that the transfused blood is a different ABO/D type), and/or the DAT on the post-transfusion sample is positive, whilst that of the pre-transfusion sample is negative, is it worthwhile going much further.

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If this is the case, then...

- ...You do need to do “the full works”!
- A full antibody investigation of both pre- and post-transfusion samples is required.
- A full cross-match of ***ALL*** units with both pre- and post-transfusion samples is required.

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If this is the case, then...

- An eluate needs to be made from the post-transfusion sample, and any antibody specificity identified.

- FBC, Chemical Pathology tests, clotting tests, haptoglobin levels and serum/plasma LDH levels must be performed.

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If this is the case, then...

- **Send samples to RCI for testing, even if all of these tests are negative/normal.**

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This is *NOT* because we don't trust your work, and it is *NOT* so that we can point the finger of blame.

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This is because we all know that not all antibodies are detectable by all techniques, that some antibodies have not "read the books" about how they should react, and we have a wider range of techniques available to us than most hospital Blood Transfusion Laboratories.

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We can, therefore, collate such information, so that we have a national registry of antibodies that do not react as would be expected with certain techniques.

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In certain circumstances, for example, we may have to perform alloadsorption studies on either (or both) the plasma samples and the eluate, to prove the presence of an alloantibody underlying an auto-antibody.

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We are not "BIG BROTHER"!

We are here to help.