Cautionary Tales
in Organ Donation and Transplantation

NHS Blood and Transplant

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Introduction

Towards the end of 2016 ODT received a record number of incident reports; between September – November 2016, 206 incidents were reported. To put into context, between the same period in 2015, 124 incidents were reported. No one is of the belief that all of a sudden more things are happening, but simply that more things are being reported. This can only be a good thing as by reporting, processes can be streamlined and patient safety and donor family experiences improved.

Often reports lead to small 'tweaks' in process, sometimes highlight a need for general awareness of an issue and on occasions lead to wider reviews. Many of you will be aware of the review taking place in regards to the length of the donation process. One of the triggers for this was a number of incident reports that highlighted the need for an end to end review rather than individual changes.

We continue to encourage all incidents to be reported to allow for information to be captured, important lessons learnt and shared with all, and importantly key themes and trends highlighted to inform wider improvements.

https://www.organdonation.nhs.uk/IncidentSubmission/Pages/IncidentSubmissionForm.aspx

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Perfusion Fluid Storage

Simple steps sometimes seem annoying or can feel unnecessary in a busy, time pressured environment; cross checking a number, a date of birth or an expiry date. However, whilst it may sometimes feel tempting to miss a check, many reports highlight why these are key to patient safety.

This was highlighted in a recent case whereby a bag of perfusion fluid was removed from a storage fridge and utilised in the lifeport machine during retrieval. The kidney went on to be successfully transplanted, however post transplant, during completion of the operation note, it was noticed that the perfusion fluid used had expired. At no point had the expiry date on the perfusion fluid been checked.

On reviewing this case the centre involved reported that expired perfusion fluid was kept for research use. This expired fluid was stored in the bottom of the same fridge that the in date perfusion fluid utilised for retrieval was kept. However the storing of both in date and expired perfusion fluid in the same fridge is an unnecessary risk; an individual could easily pick up the wrong fluid. This also highlighted the importance of checking at each step as the expired fluid could have been noted at a number of stages in the process.

The centre involved no longer stores both the in date and expired fluid in the same fridge and the importance of checking the expiry date has been cascaded.

The recipient is doing well and has been informed of the error. There was no change to their management although they will continue to be monitored.

Learning point

- Basic checking steps can prevent potentially serious patient safety concerns
- Any clinical product that is purely for use in research should be clearly marked
- Where ever possible, fluid, drugs and clinical products for use only in research should be stored separately to those utilised in retrieval or clinical treatment

Cross match material and vessels - Not labelled or just completely missing!

Following on from the above case highlighting simple cross checking, there have also been a number of reports around the labelling of cross match material. Again whilst it may appear a straight forward simple point, a number of reports have been received concerning cross match material such as lymph, spleen and also vessels being unlabelled, incorrectly labelled or completely missing.

These reports involve all in the pathway from SNODs, NORS teams and transplant centres as both SNODs and NORS teams pack organs at the point of retrieval and transplant centres re package organs if declined on visualisation.

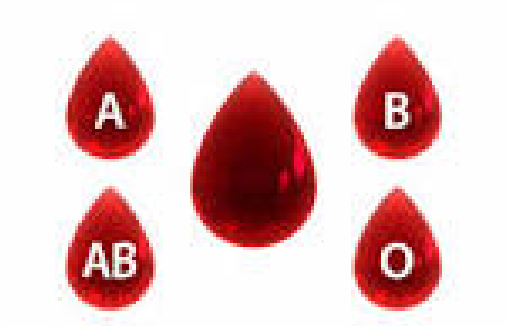
Many of these reports indicate there was no patient impact as no cross match was required or the teams were satisfied the material was linked to the donor in question; however we have had one case where a kidney was lost for transplant due to the cross match material not arriving with the organ. The organ had been accepted and reviewed at one centre, declined and then accepted on fast track. The final accepting centre required cross match material, however due to the time it would take for it to arrive from the initial centre (due to geographical distances involved) the cold ischemic time of the organ was felt to long. The kidney was placed into research and the patient informed of the error that led to their transplant being cancelled.

A simple cross check that the cross match material was with the kidney would have meant that this patient would have received their transplant.

Learning point

- Labelling may seem straight forward but there are a continual number of reports around insufficient, incorrect or absent labelling of cross match material and vessels
- Cross checking the labelling is correct and that all necessary cross match material and vessels are with an organ will prevent the unnecessary loss of an organ for transplant, and a recipient being unduly distressed
- Inadequate labelling also increases risk of incorrect tissue being allocated to a donor organ and therefore patient risk

Indeterminate ABO



We often receive reports regarding rare or unusual situations where there is no clear process as it is either a situation not previously thought of or it is so unusual decisions are based on a case by case basis with various key experts.

One such case involved a young donor who had been involved in a road traffic accident with resulting multiple traumatic injuries. These injuries required immediate fluid resuscitation of multiple blood products/components and other fluids both pre-hospital and during their ICU stay. Whilst the post transfusion blood group was reported as A positive, as a result of the haemodilution this type could not be confirmed by the donor hospital laboratory; due to the pre-hospital treatment there was no pre-transfusion sample available.

All avenues were explored at the time of donation to ascertain if the blood group could be confirmed; a donor blood sample was sent for genotyping, however this would not have been available for 24 hours and the advice was that this would only be 80% accurate. Ultimately this donor became haemodynamically unstable before the ABO group could be determined and therefore did not proceed.

At the time everyone involved did the best they could, however the case was reviewed and significant discussion had with a number of experts to ascertain if any lessons could be learnt. Unsurprisingly a number of key points were raised below.

Learning point

- Organs can be offered by the SNOD on an indeterminate donor ABO group if all other avenues have been explored. These offers should only be considered for AB recipients
- SNODs are able to enter ‘unknown’ in the 'ABO' data field and quantify that with full clinical details in the 'free text' field. Therefore if there is an ‘unknown’ blood group recorded a detailed review of the reasons for this should be carried out by the transplant centres
- If an ABO is indeterminate then SNODs will escalate early on in process to a TM/RM to enable timely advice to be sought from senior clinicians within NHSBT, the MDTS at the transplant centres and as appropriate any microbiology/haematology laboratories

Discrepancy in Micro tests

Many of the incidents we receive highlight learning across the whole of the donation and transplantation pathway. In the case below there was significant learning highlighted for SNODs, transplant centres and laboratories.

Two donors proceeded within the same hospital, but within two different Intensive Care Units. Blood samples were sent for both donors to the same laboratory at the same time for routine microbiology testing. Prior to organ retrieval the CMV IgG result was reported as negative by the laboratory for one of the donors and positive for the second donor. Organs were retrieved and transplanted and a number of months later it was reported that one of the recipients had died of a CMV related cause.

Following a full review and initial repeat testing, all relevant recipient centres were contacted; during these discussions it was reported that three of the centres that transplanted organs from the two donors had repeated microbiology tests on the donor blood samples and had gained discrepant CMV results. This had not been reported to NHSBT. The fact that the two donors from the same hospital were different genders allowed genetic testing in retrospect to confirm whether there had been a mix up of samples. This genetic testing confirmed that the microbiology results between donor A and B were mixed; donor A was CMV IgG positive, not negative and donor B was CMV IgG negative and not positive

Further tests were carried out on the HLA samples which revealed the correct sex for donor A (male) and donor B (female). This provided confirmation that the HLA samples were not mixed; the mix up occurred only with the microbiology samples. The impact of this led to the reporting of the incorrect CMV results for these two donors. We do not know at what point the microbiology samples from both donors were switched – indeed because of the circumstances on the night, we may never know precisely when or where this happened.

There were also missed opportunities for the transplant centres that retested the blood samples that were sent with the organs. If the discrepant CMV IgG results were highlighted when reported the error may have been noted earlier. Whilst we may never know precisely what happened, as always there are key learning points for all involved.

Learning point

- All SNODs have been reminded of the need for vigilance when multiple donors are proceeding at the same hospital
- It has been reiterated that samples must be labelled at the time of taking by the person who takes the samples
- The laboratory has reviewed their process and the step of producing ‘daughter’ tubes for solid organ donor samples has been stopped. The primary blood tube is now tested on the blood borne viruses’ analyser and then the same primary tube is loaded onto the analyser to complete the final serology microbiology tests (previously a ‘daughter’ tube was loaded into this separate serology analyser).
- If donor microbiology is re-tested and ***confirmed*** discrepancies are identified transplant centres have been requested to ensure that the following actions are taken:
  - Contact the Duty Office to inform them of the result
  - Forward the written information to the Duty Office to allow for onward reporting to transplant centres (the Duty Office are unable to communicate verbal results to centres)
  - Report via the online reporting form to ensure that the discrepancy can be reviewed fully and actioned taken where necessary