NHS Blood and Transplant

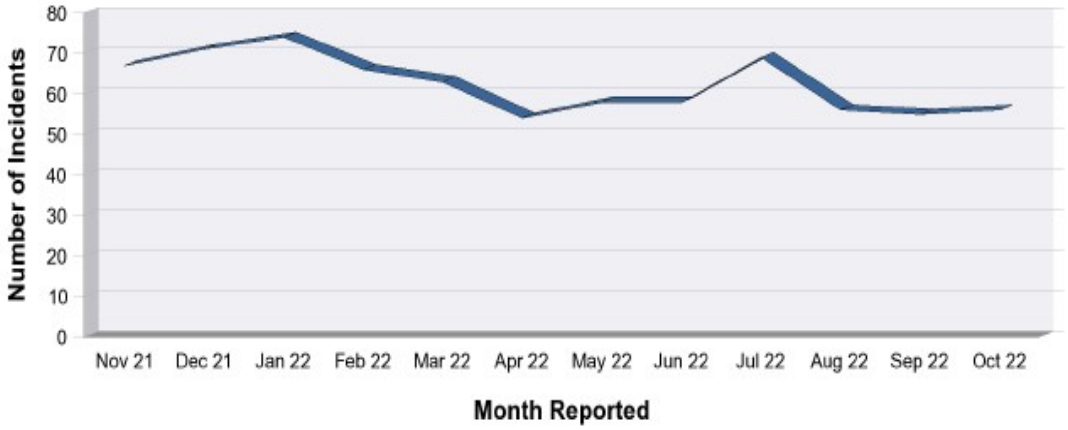
Kidney Advisory Group
ODT Clinical Governance Report January 2023

1. Status – Confidential

2. Action Requested

KAG are requested to note the findings within this report.

3. Data



4. Learning from reports

Below is a summary of the findings and learning from key clinical governance reports submitted to ODT:

Date reported: 16th February 2022
Reference: INC 6122

What was reported
Donor lung histopathology 7 days' post-transplant reported *"multiple granulomas with necrosis and mycobacteria on staining in donor bronchus tissue samples."* Samples sent to reference laboratory for TB PCR.
Investigation findings
Five solid organs were transplanted from the donor; bilateral lungs, heart, liver and both kidneys – all recipient teams were informed by OTDT Clinical Governance (CG) of this post donation finding as were the clinical teams involved in the process. The day following the report being submitted to OTDT CG, the lung recipient centre informed NHSBT that they had received a *"positive mycobacterium tuberculosis (MTB) DNA result obtained from the fixed bronchial tissue which had abundant acid-fast bacillus (AFB) by microscopy."* All involved parties

updated by CG.

Statutory Reporting to the UK Health Security Agency (HSA) was undertaken by the lung recipient centre who then co-ordinated a national incident group to work with all parties involved to ascertain the necessary actions.

Donor characterisation

Following confirmation of neurological death, a chest X-ray was completed as part of donor characterisation.

Due to the time scales involved there was not a formal radiology report available for review prior to organ donation proceeding so the ICU clinician reviewed as per process. It was documented as “normal” on the Core Donor Data Form available to centres at the time of organ offering. As usual process, an image of the chest X-ray was taken by the SNOD and forwarded to Hub Operations to be sent to any cardiothoracic centres considering the lung offer(s). There did not appear to have been any other chest X-rays undertaken during the patient’s admission.

During donor characterisation attempts were made to contact the patient’s General Practitioner (GP) who was outside the UK; this was unsuccessful and therefore was to be followed up the next working day. The patient had been living in the UK for 5 months.

Following review of the donor Medical and Social History (MaSH) which was undertaken with the patient’s husband and brother-in-law with an interpreter. there were no responses to any of the questions which were suggestive of TB. The only thing of note was the patient’s place of birth and their recent move to the UK.

Retrieval process

Following completion of the retrieval operation, the cardiothoracic organs were packed ready for transport. At this point a donor hospital ICU clinician contacted the SNOD team to make them aware that the chest X-ray had been formally reported and it stated that there was a right upper lung nodule approximately 14mm in size. The formal chest X-ray report was emailed to Hub Operations for onward dissemination to recipient centres if requested.

The post retrieval information was immediately communicated by the SNOD to both the cardiothoracic (CT) NORS Lead Surgeon who was still present in theatres, and all accepting centres. The lead CT NORS retrieval surgeon also immediately contacted the accepting lung transplant surgeon to verbally communicate this post retrieval finding. A few hours later the interim histopathology report was communicated verbally by the lung implanting centre as a “non-malignant necrotic nodule” - formal laboratory report was pending. All centres were updated as appropriate.

During the investigation the CT NORS retrieval surgeons confirmed that they reviewed the donor chest X-ray shown by the donor hospital SNOD on the local imaging platform. They stated that it was *“perceived and interpreted that*

there were no gross abnormalities in the donor's chest X-ray." During the routine direct inspection of the lungs during the CT retrieval process the CT NORS retrieval surgeons stated that *"there was no obvious gross abnormality seen or detected on manual palpation."* The cardiothoracic retrieval surgeon spoke directly with the cardiothoracic transplant recipient coordinator to discuss lung anatomy. No concerns were reported to the SNOD. There was nothing abnormal noted on the cardiothoracic HTA A form or documented in the operative record. <u>Post donation</u> Information from the GP was gained verbally (via an interpreter) a few hours post retrieval. The only new information that was not available during donor characterisation was related to a question regarding any prescribed medications. The patient had a history of antibiotics and anti-inflammatories for previous chest infections in 2014, 2015 and 2020. When the donor family were contacted to discuss the post donation clinical finding of TB, this was new information to the them and they reported that this had not been diagnosed in the past.
Learning
Ongoing process discussions taking place in relation to the review of the chest X-ray during donor characterisation and retrieval. Prompt communication of the post donation formal chest X-ray report by the donor hospital ICU team and the lung recipient centre incident report to CG helped to ensure appropriate and timely management of the recipients. NHSBT final investigation report has been shared with all parties involved.

Date reported: ABO mismatch incidents

What was reported
We have recently had three cases related to mismatch ABO organ allocation. One of these cases was a near miss and the other two were identified early in the pathway and highlighted why we do the safety pauses and checks we do.
Investigation findings
In the cases mentioned above, the blood group of the donor was entered onto the Core Donor Data Form incorrectly. That blood group was then utilised in the automated matching and allocation. As the blood group entered at this stage was incorrect, the organs were offered and accepted for ABO incompatible patients. This was identified prior to transplantation.
Learning
Utilising a systems' thinking approach we have completed a full pathway review of the blood group process. This review started at the point of the blood group request at the donor hospital, right through to the organ arriving

at the hospital of the intended patient. There are nearly 60 actions to strengthen the pathway and are being worked on now with all stakeholders.

More details of the review can be found in Cautionary Tales:

https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/27538/cautionary-tales-september-2022.pdf

Since the above many will also be aware of a case relating to a blood group error that led to three recipients receiving unintentional ABO incompatible organs.

The factors relating to this case were significantly different to the above. The donor had received a massive blood transfusion. The hospital IT system recorded the donor blood group as O. However, it came to light that the donor was in fact blood group B. How this has happened is being thoroughly investigated by the hospital and ourselves. Any learning findings will be shared as appropriate.

Date reported: 20th July 2022
Reference: INC 6429

What was reported
During transplantation of a living kidney into a paediatric recipient, the recipient had profound bradyarrythmia and hypotension at anastomosis and clamp release. Atropine was required to stabilise the recipient at the time however has recovered well with good graft function.
Investigation findings
This was found to occur due to the well-recognised effect of adenosine within UW perfusion fluid. The impact is magnified where a larger organ is transplanted into a smaller child and there is a short cold ischemic time, as in living donation. Following this the transplant centre intends to change to HTK perfusion solution for retrieval of kidneys for smaller children (where feasible). The incident has been reviewed by the Associate Medical Director - Governance (Retrieval and Transplantation) and agreed that the phenomenon is well described in literature by Belzer. They feel it would be best to not flush the organ with UW prior to implanting into a child but there is no reason to stop using UW. Although this is not a retrieval issue this has been discussed with the Medical Director - Organ Retrieval and Assistant Director for Living Donation and

agreed with the Associate Medical Director - Governance (Retrieval and Transplantation) and below are some suggestions for wider awareness:

1. Organs preserved with UW can present a risk of bradycardia or sinus arrest to recipients, especially those with lower body weight and short CIT, as a consequence of adenosine content in UW (1.34 mg/ml). A recent UK report describes this in a paediatric patient receiving a live donor kidney. It has not been reported in cadaveric organ transplant or in adult recipients
2. NORS teams use UW to preserve abdominal organs almost without exception, but live donor organs may be preserved with whatever preservative is thought appropriate by the retrieving surgeon.
3. Consideration could be given to preservation with non-UW preservation fluids (HTK) if there is a concern in the live donor centre, which may be of greater relevance where CITx may be very short.
4. Alternatively, the organ could be flushed with a non-UW preservation fluid such as cold HTK prior to implantation.
5. It is for recipient teams to decide what is best for their patient in regard to live donor organ preservation, or flushing organs in general.

5. Incident trends noted

There have been several cases reported relating to issues around flight availability for organ transportation and the ODT Commissioning Team are working with providers in relation to this.

6. Requirement from KAG

Note this report

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