

Clinical Governance report Lung – CTAGL(17)02
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In a 6 month period, October 2016 to March 2017, there were 29 Incidents categorized under the key-word “Lung”, a number completely in line with previous time-period

15 Incidents relate directly to aspects of lung transplantation:

No less than **9** revolved around **Retrieval**, and two of them involved DCD heart retrieval.

In one instance, the DCD heart retrieval team did not bring with them any of the equipment for lung retrieval, delaying the whole operation

In another case, where the donor was put on thoraco-abdominal Normothermic Regional Perfusion – TA-NRP – there was concern from the different accepting surgeon that the lungs deteriorated on perfusion. This was probably not the case, despite massive haemorrhage in the donor, but communication between the two teams was suboptimal.

These two cases do raise a concern that lung retrieval from these close to perfect DCD donors is relatively infrequent

Two pairs of lungs arrived at the recipient centre in a poor state. One set was barely flushed, and the recipient required ECMO for 48 hours but made a good recovery. In another, there was a very short pulmonary vein, almost no ice in the box and clot visible in the pulmonary artery. The patient did well after left atrial reconstruction.

In another, the Incident was reported because Flolan was not added to the Perfadex in the storage bag – the donor care practitioner felt that he had made an error. This revealed that the team in question was still using Perfadex for lung storage, long after it was decided to use saline.

There were two needlessly early mobilisations of NORS teams

Two Incidents revolved around biopsies.

In one, there was a nodule in the lung, which the retrieval surgeon felt required biopsy. However the recipient surgeon was unconcerned, and used the lung. This was not well communicated to the other centres, who were waiting for a biopsy result.

In another, a firm area of lung in an 18 year old trauma victim was thought potentially suspicious by the DCD heart retrieval team – the lungs were not used. The area of lung was then removed by the abdominal team, and subject to rapid processing. The results were viewed by a non-specialist pathologist, who reported suspicion of malignancy. When the liver team heard this result, they stopped the recipient procedure and woke up the patient. The final result was pneumonitis. This case highlights several histopathology-related problems – perhaps less than ideal assessment, poor communication and suboptimal interpretation. All of these aspects are being addressed by an NHSBT working party

The other two significant **Transplantation** related Incidents concern either late acceptance or change of mind about acceptance when a late X-ray became available. The latter, in particular, highlights to recipient centres the ease with which X-rays can now be seen.

Finally, issues surrounding heart valve retrieval again surfaced, and were a part of the Heart Governance Report

Heart Valves

6 Incidents were related to problems with heart valves, either when the lungs alone were being retrieved, or when the heart itself was being taken for tissue only. There were two instances of the pulmonary artery being cut short when lungs but not heart were retrieved. There were also two complaints from a valve bank about sutures in pulmonary arteries

Recipient teams are reminded of the agreement to divide the pulmonary artery distally when the lungs but not the heart are retrieved – see Appendix, a document shared with every CTAG since the last century

Tissue banks have also been reminded that from time to time, a pulmonary artery will have a sutured cannulation site, and this should not bar subsequent use; it does not represent damage.

Appendix:

Heart Valve Damage

Retrieval of Heart Valves

If neither the heart or lungs are retrieved from a multi-organ donor, the heart and importantly aortic and pulmonary valves will often be removed by the NORS team. There is a standard set of instructions for how this should be done (INF 195-1doc)

When the lungs alone are removed, in either a DCD or DBD donation, there is clearly scope for retrieval of both valves. The aortic valve is obviously not a problem. But there are regular complaints from the valve banks that the pulmonary artery is too short for the valve to be used.

For most applications involving pulmonary valve implantation, only the artery up to the bifurcation is required. (Complex reconstructions involving main pulmonary arteries cannot be performed with the valve if the lungs are being retrieved.)

It is proposed that when lungs are taken from the donor, the division of the pulmonary artery is at the level of the bifurcation, leaving only the superior part of the main pulmonary artery in continuity



The cannulation site will obviously be included in the specimen, but this is unavoidable. However, I hope we can agree that the implantation of the lungs will not be jeopardized by this distal division, but more usable pulmonary valves will be supplied to tissue banks