

# NHS BLOOD AND TRANSPLANT ORGAN DONATION AND TRANSPLANTATION DIRECTORATE

## ADVISORY GROUP CHAIRS COMMITTEE

### Microbiological contamination of retrieved abdominal organs

#### **Background**

The liver, a kidney and a kidney/pancreas, in addition to heart valves, were retrieved from a 21 year old female donor on August 26. Subsequently the liver recipient died as a consequence of rupture of a mycotic aneurysm of the hepatic artery. The renal recipient had similar bleeding, resulting in loss of the graft. Candida was grown from both the aneurysms. The transport fluid of both the kidney and the pancreas grew candida.

The kidney/pancreas recipient did not have candida-related problems.

Subsequent discussions with the retrieval surgeon identified an additional breach of the GI tract during retrieval. This was dealt with in a standard fashion but not reported to the recipient team.

A further recipient at Kings had earlier suffered a similar complication with a Candida-related mycotic aneurysm. The same retrieval team and the same perfusion fluid was involved in both donors.

- The isolates from the August 26 donor all grew an identical strain
- § The isolates from donor 2 were a different strain from those in donor 1 and therefore unlikely to be connected.
- § Batches of perfusion fluid had been quarantined, but were subsequently shown not to be contaminated, and have now been released

#### **Some Potential Issues Raised by these Incidents**

- Should there be a standard approach to dealing with and communicating a breach of the GI tract during an abdominal retrieval?
- Should there be a study of transport fluid contamination?
- There is potential contamination at every pancreas retrieval. Should there be any standard approach to sampling or anti-microbial prophylaxis?

#### **Transport fluid culture**

The fluid surrounding the organ has been tested at a number of centres and in a number of published reports. Positive cultures are very unusual in thoracic organs, but common with abdominal organs. This may represent surgical contamination, as possible in the index case, or trans-serosal migration following brain death and handling of the gut.

Analysis in Newcastle (Appendix 1) of 87 inner bag samples since October 2014 had 17 (19.5%) positive cultures, although no candida. In the same time period 85 transport ice specimens had 30 (35%) positive cultures, two with Candida

In the literature, contamination occurs in 2.2 – 24% of transport fluid specimens. There is no published data specifically on Candida positive culture, but it occurs as a small proportion of some series (1/23 in Wakelin et al, 6/24 in Veroux et al, 0/15 in Chaim et al)

Results of literature search and three papers in Appendices 2,3,4 and 5

## Actions

Feedback has been given to LAG, and would have been given to KAG.

The issue was discussed at ODT-CARE in December, and a number of further actions decided:

- Include in Cautionary Tales for wider learning
- John Dark to write to the solid organ advisory groups to disseminate lessons learnt, particularly
  - The risk of fungal contamination whenever there is a pancreas retrieval
  - Positive **fungal** cultures from transport fluid to be reported to allow for this information to be disseminated to other recipient centres who received organs from the same donor
- John Dark to write to Professor Ploeg, National Clinical Lead for Retrieval to highlight
  - The importance of ensuring that a breach of the gut is communicated to recipient centres
  - Ensure that this is part of the NORS standards, together with a standard approach of reducing contamination and decontaminating the cut edge of the duodenum
  - Consideration of routine culture of the duodenal cut edge
  - To discuss at Clinical Retrieval Forum and National Retrieval Group to ensure lessons learnt are shared
- John Dark to write to all liver and pancreas centres to ascertain if they routinely test transport fluid

Members are asked to consider any additional actions.