

**NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE**

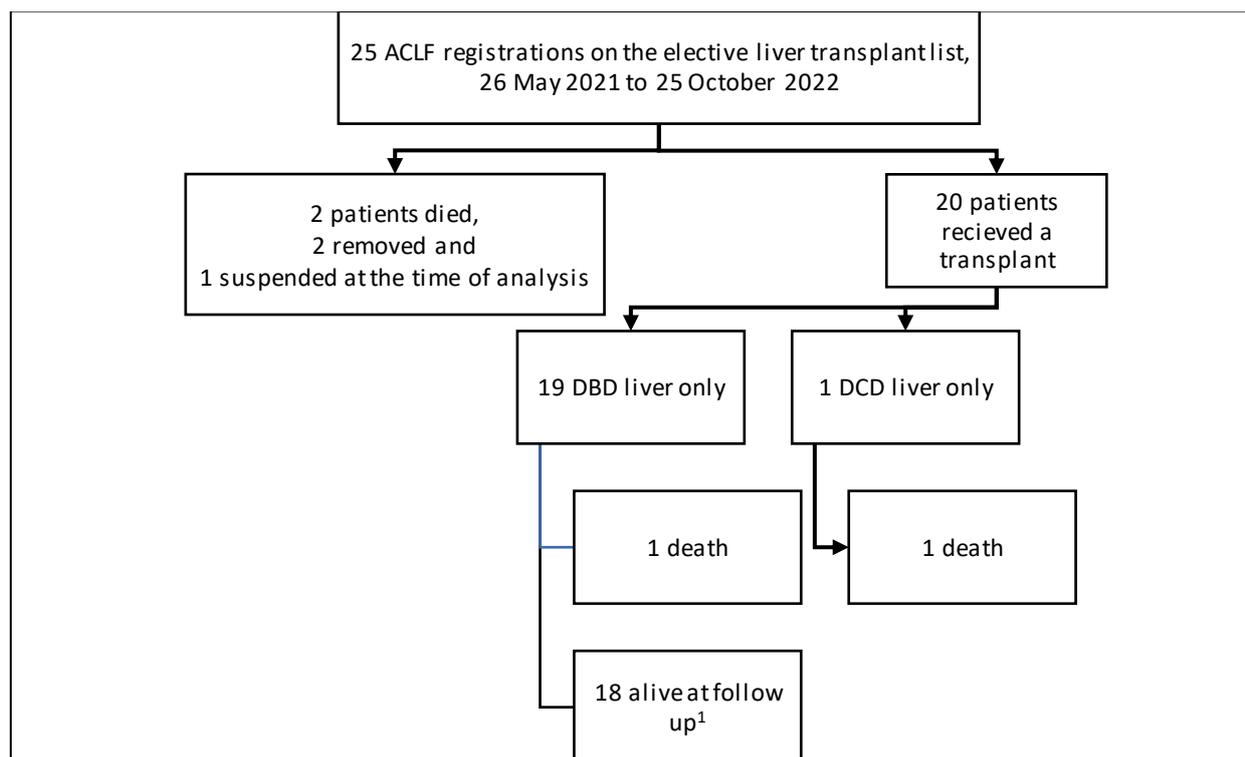
LIVER ADVISORY GROUP

UPDATE ON THE ACLF SERVICE EVALUATION

1. A service development evaluation to transplant Acute on Chronic Liver Failure (ACLF) was successfully introduced in May 2021. The inclusion and exclusion criteria for the service evaluation are shown in **Appendix A** and are also on the ODT website (<https://www.odt.nhs.uk/transplantation/tools-policies-and-guidance/policies-and-guidance/>). Transplant centres are responsible for ensuring patients meet the eligibility criteria and deciding whether the patient should be removed from the waiting list.
2. Prior to the implementation of the ACLF service evaluation, there were 1 super-urgent and 1 elective registrations with ACLF in March 2020 and April 2021 respectively. The SU patient was transplanted within one day of registration and the elective patient was removed from the waiting list due to their condition improving. These registrations are excluded throughout the report.
3. As at 25 October 2022, there have been 25 UK elective registrations for ACLF since May 2021. There has been an additional one request declined due to patient not fulfilling the inclusion criteria and one patient informally discussed with the Chair of Liver Advisory Group but no formal request submitted. **Figure 1** shows the registration outcome as at 25 October 2022 and shows that 20 of the 25 patients received a liver only transplant.
4. Mean age of patients registered was 44 years (range 20-56). All were in ICU, with 79% requiring level 3 care; mean ACLF grade was 3, encephalopathy grade 3, bilirubin 360 uMol/l and INR 3.7. Sixteen (64%) were ventilated, 21 (84%) were receiving RRT and 21 (84%) were receiving vasopressors. Sixteen (64%) were already waitlisted for a median of 57 days (IQR 25-338) prior to elevation to the ACLF tier.
5. Of the 20 patients who received a liver from a deceased donor, 18 (90%) were known to be alive at their last follow up and 2 (11%) were known to have died. One died after 38 days in ICU after receiving a Donor after Cardiac Death (DCD) liver graft outside the ACLF tier, and the other died of a CVA 6 days post liver transplant with a Donor after Brain Death (DBD) graft. One patient was super-urgently registered the day after receiving a liver only transplant involving a DBD graft and was transplanted with another DBD liver and is alive at last follow-up.

6. The median waiting time to transplant was 2 days and ranged between 1 and 7 days.
7. Mean follow up for the 18 surviving DBD recipients was 142 days post liver transplant (range 6-265). Median length of post-transplant ICU stay was 13 days (range 2-48) and hospital stay 35 days (range 14-87). Seven patients are still hospitalised.

Figure 1 Registration outcome for the 25 ACLF registrations on the UK elective transplant list, 26 May 2021 to 25 October 2022



¹ One patient was super-urgently re-registered a day after transplant and received a liver from a DBD donor

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APPENDIX A: from the Hepatoblastoma, Prioritised Paediatric and ACLF Registration Process – SOP5907**Introduction**

Fixed Term Working Unit was established by LAG to examine liver transplantation in critically ill patients with cirrhosis (ACLF). A report was presented at the November 2019 LAG meeting and recommended that a new tier should be added to the offering sequence after paediatric offering but before the adult elective stage. This requires an IT change which has been raised.

Feedback and concern was received from transplant centres when a transplant centre submitted a super-urgent appeal for an ACLF patient. It was agreed at the weekly centre director telecon and at LAG that, prior to the IT change, ACLF patients should be offered in the hepatoblastoma tier. It was also agreed that a super-urgent appeal was inappropriate for ACLF patients.

Note that this is for adult patients.

Inclusion criteria

- Requirement for care in ICU or HDU setting
- Cirrhotic Chronic Liver Disease
- ACLF with 28-day survival <50%, likely grade of 3 or higher

Exclusion criteria:

- Age >60 years
- Active bacteria or fungal sepsis
- Multi-organ failure overwhelming or with adverse trajectory
- Excessive comorbidity
- Frailty likely to preclude rehabilitation

Approval

Requests to prioritise ACLF patients who are clinically deteriorating will be managed and overseen by the requesting transplant centre who will provide the following with information required

- Chair of FTWU
- Chair and Deputy Chair of the National Appeals Panel
- Head of Service Delivery - ODT Hub
- Lead Statistician for Liver Transplantation

The request should include patient identifiable data (e.g., hospital number, NHS number, date of birth, initials), age, weight and ODT recip_id (if applicable). It is anticipated that a decision should be made within 24 hours.

Once agreed, the registration (including amendment) process below should be followed within working hours Monday to Friday.

Registration Process

Transplant centres wishing to register an ACLF patient should complete or update the Elective Liver Recipient Registration Form (**FRM4332**) with the following indications and submit the form to NHS Blood and Transplant on ODT Online.

- 444 (hepatoblastoma) as primary indication
- True primary disease as secondary indication
- "ACLF PATIENT" as tertiary indication

Transplant centres should subsequently email ODT Hub: Information Services

(ODTRegistrationTeamManagers@nhsbt.nhs.uk) after submitting the form to inform ODT Hub:

Information Services that they have registered an ACLF *patient along with the agreement from the approval panel and the supplemental ACLF data form*. Note that these emails will be actioned by both ODT Hub: Information Services and Statistics & Clinical Research during working hours (10am - 4pm Monday - Friday).

Also, note that a report is automatically produced every day showing the patients that are active on the elective transplant list with hepatoblastoma as the primary indication. Therefore, transplant centres should be aware that although the patient will appear on the active elective waiting list once the registration form is committed, they may not appear in the correct position on the hepatoblastoma tier until additional waiting time is added and there may be a delay if transplant centres do not email ODT Hub: Information Services.

ODT Hub: Information Services will then contact Statistical Enquiries (statistical.enquiries@nhsbt.nhs.uk) and the Lead Statistician for Liver Transplantation to confirm the type of patient. Either the Statistical Enquiries Lead or Lead Statistician for Liver Transplantation will check that the patient is an ACLF patient and, if necessary, confirm with the transplant centre.

The process above should be followed for both new patients and patients already registered on the liver transplant list. Follow-up information additional to the standard post-transplant dataset will be required from centres for recipients transplanted through the ACLF tier.

Additional Waiting Time

Once confirmed, a Lead from Statistics & Clinical Research will email ODT Hub: Information Services to inform them that it has been confirmed and that 0 additional waiting days should be added.