

## Alcohol-Associated Hepatitis: A National Point-in-Time Survey

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### Abstract

#### *Aims*

In Ireland acute alcohol-associated hepatitis (AAH) has traditionally been considered a contraindication for liver transplant. Emerging evidence demonstrates that early liver transplantation for AAH has very successful outcomes in carefully selected patients. The National Liver Transplant Programme at St Vincent's University Hospital is reviewing the number of inpatients being treated for AAH, their clinical parameters and the resources available for their treatment.

#### *Methods*

An internet survey of eleven questions was generated on the SurveyMonkey platform. Questions related to respondents' location; level of experience; the number, demography and clinical characteristics of inpatients with AAH admitted in the two weeks up to survey completion; resources available for their management and potential barriers to referral for transplant assessment. This was distributed to gastroenterologists throughout Ireland via social media by the authors.

#### *Results*

18 respondents completed the survey. Responses were collected from 12 centres throughout Ireland. 9 (52.94%) of respondents work as consultants.

The median number of inpatients with AAH cared for by each respondent was 1 (IQR 0-2). Clinical data was available for 19 patients admitted with AAH. 9 (47.67%) were aged 50 to 59 years old. 5 (26.32%) were aged 39 years old or younger. 1 (5.56%) patient fulfilled all criteria for consideration of liver transplantation in line with international experience.

11 (64.71%) respondents agreed or strongly agreed that a regular virtual multi-disciplinary meeting where potential transplant assessment referrals could be discussed would be useful.

#### *Discussion*

This national survey demonstrated that during a two week period only 1 (5.56%) patient admitted with AAH met all criteria for the consideration of early liver transplantation in line with international experience.

## Introduction

Alcohol-associated hepatitis (AAH) is diagnosed clinically on the basis of jaundice in patients with ongoing heavy alcohol use. It confers a poor prognosis with 20 to 50% mortality at 3 months for severe disease<sup>1</sup>. Severe disease is defined by a Model for End-Stage Liver Disease score of 25 or greater<sup>2</sup> or a Maddrey's Discriminant Function of 32 or greater<sup>3</sup>. Treatment for AAH is limited. Corticosteroids are commonly used for the treatment of AAH however they do not confer a survival advantage at 90 days<sup>4</sup>. Given the poor prognosis and limited therapeutic options for AAH, orthotopic liver transplantation (OLT) has been used as a treatment for AAH<sup>5</sup> with similar outcomes to OLT for other indications<sup>6</sup>. Initial criteria for early liver transplantation for AAH included first presentation, non-response or contraindication to medical therapy, motivation for alcohol cessation, supportive family members and the absence of severe comorbidities<sup>5</sup>. After the initial trial in France and Belgium, the use of OLT for carefully selected cases of AAH has been included in European<sup>7</sup> and American<sup>8</sup> guidelines. The 2024 clinical practice guidelines for liver transplantation from the European Association for the Study of the Liver expand its indications to include select cases of medically refractory AAH<sup>9</sup>.

The National Liver Transplant Programme performed 51 liver transplants in 2022<sup>10</sup>. At present AAH is considered a contraindication for liver transplantation with 6 months abstinence required before OLT can be considered for alcohol related liver disease<sup>11</sup>. With the emerging international practice of early OLT for AAH the authors wished to assess a snapshot of the current national management of AAH and the potential demand on the National Liver Transplant Program if policy in this area was changed.

AAH is one form of alcohol-related medical harm. Alcohol use is responsible for 19.4% of emergency department presentations in Ireland<sup>12</sup>. 594 patients died of alcohol related harm in Irish hospitals in 2021<sup>13</sup>. The management of these conditions requires multi-disciplinary teams. The authors sought to assess the current resources available to teams managing alcohol related harms.

OLT outcomes vary by geography with patients who live further from transplant centres experiencing poorer outcomes<sup>14</sup>. The authors used this survey as an opportunity to assess potential barriers in referral for OLT from referring gastroenterologists.

## Methods

An internet survey was generated on the SurveyMonkey platform<sup>15</sup>. This was distributed to gastroenterologists throughout Ireland via social media by the authors. This included emailing an electronic link to the survey by the Irish Society of Gastroenterology and circulating an electronic link to registrars and specialist registrars in gastroenterology via a national

electronic messaging group. The survey was open for completion by respondents from October 16<sup>th</sup> 2023 until December 18<sup>th</sup> 2023. Following closure of the survey the SurveyMonkey data was converted to an Excel file<sup>16</sup> for analysis by the authors.

Confidential, identifiable information for respondents and patients was not gathered. Respondents were not required to answer all questions. More than one respondent was permitted to complete the survey for any given centre. Responses were excluded if the answers submitted were not internally consistent.

11 questions were included in the survey. Three questions related to respondent factors; centre of clinical practice, level of experience and multidisciplinary resources available for the treatment of patients with AAH. Seven questions related to the clinical management of AAH by respondents in the two weeks leading to the completion of the survey; the number, demography, complications, management of inpatients with AAH in addition to suitability for transplant in accordance with criteria laid out by the original French and Belgian trial<sup>5</sup>. Two questions related to respondents' experience with the National Liver Transplant Programme as referrers and the perceived potential benefit of a national virtual multi-disciplinary meeting to discuss referrals.

Results of the answers provided by respondents are presented descriptively or, for numerical data as medians with interquartile ranges.

## Results

18 respondents completed the survey of 11 questions (figure 1). The results of 1 survey were excluded as the number of patients by age range differed from the total number of patients reported to have AAH. 17 (figure 2) accepted surveys represented 12 centres nationally. 9 (52.94%) respondents work as consultants, 7 (41.12%) work as specialist registrars and 1 (5.88%) work as registrars.

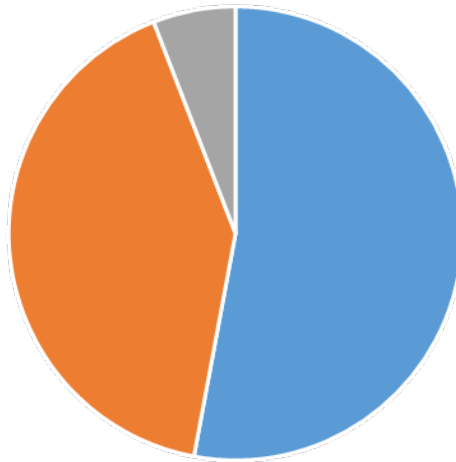
*Figure 1: Table of survey questions*

Number	Question	Response option
1	What centre are you currently working in?	Open
2	What is your current role on the team?	Multiple choice
3	How many patients have been admitted under the care of your team with a diagnosis of acute alcohol associated hepatitis in the past two weeks?	Numerical data
4	For comparison, how many patients have been admitted under the care of your team with a diagnosis of decompensated cirrhosis in the past two weeks?	Numerical data

5	Of patients with acute alcohol associated hepatitis, how many fit in to the below age brackets?	10 year age brackets
6	How many in-patients with acute alcohol associated hepatitis have met the below biochemical and clinical parameters during their inpatient stay?	Multiple choice
7	In the past two weeks how many patients with acute alcohol associated hepatitis have been treated with corticosteroids, or you would treat if not for a contraindication?	Numerical data
8	Of inpatients with acute alcohol associated hepatitis how many would have an indication for early liver transplantation? (1st presentation of alcohol associated hepatitis with day 7 Lille score >0.45 or intolerance to or contraindication to corticosteroid treatment with supportive family members and the absence of severe medical comorbidities and motivation for sustained alcohol cessation.)	Numerical data
9	Do you currently have access to the following services for patients with alcohol related medical conditions?	Multiple choice
10	In general, are there any barriers you wish to highlight that might prevent you referring your patients for liver transplant assessment in St Vincent's? (e.g. patients don't like idea of travel to Dublin; uncertainty around indication, co-morbidities or alcohol history; assessment process seems long or complex; logistical or communication difficulties?)	Open
11	Would a regular virtual MDT meeting where potential transplant referrals could be discussed with SVUH prior to formal referral be helpful?	Multiple choice

*Figure 2: Survey respondent characteristics*

Respondents (n=17)



■ Consultant (n=9 (53%)) ■ Specialist Registrar (n=7 (41%)) ■ Registrar (n=1 (6%))

With regard to the clinical resources available for the treatment of patients with AAH, 5 (41.67%) centres had access to clinical nurse specialists with a specialist interest in alcohol related harm, 10 (83.33%) had access to liaison psychiatry services, 9 (75%) had access to social work, 12 (100%) had access to clinical nutrition and 4 (33.33%) had access to counselling.

The median number of in-patients with AAH cared for by each respondent in the two weeks prior to survey completion was 1 (IQR 0-2). For comparison the median number of in-patients with decompensated cirrhosis cared for by each respondent during the same time period was 4 (IQR 1-8.5).

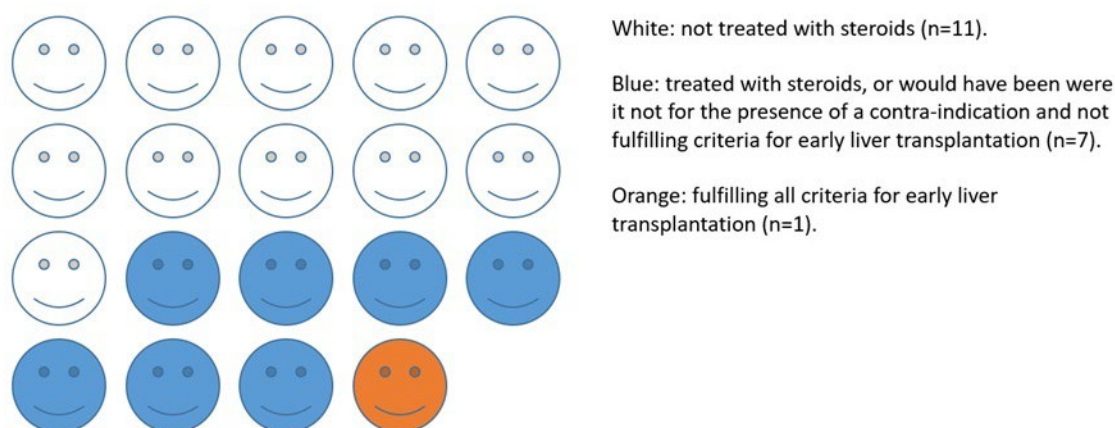
Clinical data was available for 19 in-patients with AAH from 10 responses for 8 centres (figure 3). 5 (26.32%) were aged between 30 and 39 years old, 5 (26.32%) were aged between 40 and 49 years old and 9 (47.67%) were aged between 50 and 59 years old. No patients for whom clinical data were available were younger than 30 years old or older than 59 years old.

9 (47.67%) in-patients with AAH had an INR greater than 2.5 during their inpatient stay, 14 (73.69%) had a bilirubin greater than 100  $\mu\text{mol/L}$  and 7 (36.84%) were diagnosed with acute kidney injury. 8 (42.11%) inpatients with AAH were, or would have been treated with corticosteroids were it not for the presence of a contraindication.

Of 19 patients with AAH 1 (5.26%) fulfilled all criteria for consideration of liver transplantation<sup>5</sup>; first presentation with AAH; 7 day Lille score<sup>17</sup> greater than 0.45, intolerance

or contraindication to corticosteroid use; supportive family members; motivation for alcohol cessation and the absence of severe medical comorbidities.

*Figure 3: Characteristics of inpatients with AAH.*



16 respondents completed questions with regard to their experience as referrers to the National Liver Transplant Programme. 6 (37.5%) strongly agreed that a virtual multi-disciplinary meeting to discuss potential referrals would be useful, 5 (31.25%) agreed that this would be useful, 2 (12.5%) neither agreed nor disagreed that this would be useful, 1 (6.25%) disagreed that this would be useful and 2 (12.5%) strongly disagreed that this would be useful. An open question with regard to referral to the National Liver Transplant Programme identified uncertainty around indications, need for phosphatidylethanol (PeTH) testing and the impact of comorbidities as potential barriers to referral.

## Discussion

This national point-in-time survey demonstrates that AAH is a common cause for hospital admission in Ireland with respondents caring for, at median, 1 in-patient with AAH in the two weeks up until survey completion. The majority of patients were younger than 50 years old. These patients frequently develop complications of AAH with 47.67% developing significant coagulopathy (INR > 2.5) and 36.84% developing acute kidney injury.

Only one patient identified during this survey met all criteria for early liver transplantation as practiced in other locations<sup>5</sup>. This is in line with international experience that a tiny proportion (2.3%) of patients presenting with AAH are potentially candidates for liver transplantation<sup>18</sup>. Given the similarity between this experience and other centres it therefore appears unlikely

that expanding OLT to carefully selected patients with AAH in line with other jurisdictions would saturate demand for OLT to the detriment of other patients listed for OLT. Although they may have met all criteria for early OLT an in-depth psychosocial assessment, as would be required for OLT, was not performed.

This study is limited in that it is a survey that indirectly assesses the clinical situation in Irish hospitals through the reporting of gastroenterologists as opposed to a detailed review of each case with all relevant clinical data available. As such threshold age and biochemical values are reported instead of discrete values that would facilitate more granular analysis. Another limitation is the time frame assessed for this survey. Two weeks were chosen to facilitate recall by clinicians however, given the small numbers of patients with AAH cared for by each gastroenterologist, this does not demonstrate the exact prevalence of this condition. Multiple responses were allowed per centre. Therefore it is not possible to ensure that no duplicates have been included. Allowing for this only one patient who met all criteria in the original study<sup>5</sup> was identified.

The survey demonstrated wide variability of availability of multi-disciplinary services for the management of the complications of alcohol related harm. Further resources are required for the management of these conditions that were responsible for 18,877 hospital admissions in Ireland in 2022<sup>13</sup>.

Respondents highlighted uncertainty around indications, the need for PeTH testing and the impact of comorbidities as potential barriers to referral to the National Liver Transplant Programme. Ongoing communication with referring centres should be prioritised to reduce the impact of this uncertainty.

#### **Declarations of Conflicts of Interest:**

None declared.

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