

## Epidemiology of Acute Alcoholic Hepatitis in Israel

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### Abstract

**Background:** Acute alcoholic hepatitis is a common disease with relatively bad Prognosis. The main factor that affects prognosis is withdrawal.

**Aims:** The purpose of this study was to identify the characteristics of patients admitted to Barzilai Medical Center on 2004 -2017 due to acute alcoholic hepatitis.

**Methods:** Our study was a retrospective cohort study. Ninety-nine patients were found eligible for this study. All hospitalizations occurred in Barzilai Medical Center between 2004 and 2017 due to acute alcoholic hepatitis. Exclusion criteria were: age below 18 years and pregnancy. A review of the medical files in the Barzilai Medical Center Archives was performed by a resident physician, and all the data were transferred to a computerized system for statistical summary and processing.

**Results:** The study included 99 patients admitted to the Barzilai Medical Center between 2004 and 2017 due to acute alcoholic hepatitis by ICD10. The average age of patients was 48 years. The average duration of hospitalization was 8 days. 72% were males. The mean amount of alcohol consumed by males was 80 g per day and 40 g per day by females. Seventy-eight percent of the patients were born in Former Soviet Union, 6% were born in Israel, and 16% were born somewhere else. Symptoms of the disease included jaundice, ascites, gastrointestinal bleeding, and encephalopathy. Nausea, vomiting, fever, and a large, tender live were common symptoms. For patients with acute alcoholic hepatitis, mortality was of 40% during hospitalization up to a year later, 60% survived either due to liver transplantation or due to conservative treatment.

**Conclusion:** Acute alcoholic hepatitis is a common disease with relatively bad prognosis and one-year survival of only 60%. Women are more vulnerable in smaller doses of alcohol. Most of the patients with AAH were born in Former Soviet Union. Since withdrawal is the only definitive solution we believe that such patients should be treated intensively in withdrawal centers.

**Keywords:** Acute Alcoholic Hepatitis; Amount of Alcohol Females; Vulnerable

### Background

Excessive alcohol consumption is a growing trend in the United States, Europe, and Israel, with approximately 87% of the general population older than 18 years in USA reporting some history of alcohol consumption and approximately 25% meeting the criteria for heavy drinking [1-3]. Acute Alcoholic hepatitis (AAH) is a unique syndrome in patients with alcoholic liver disease. It is associated with poor prognosis and incredibly high short-term mortality of 16% to 50% within 1 month of presentation, depend-

ing on initial disease severity [4-8]. AAH accounts for 0.7% of all hospital admissions in the United States, which is higher than that for myocardial infarction, or acute pancreatitis [9,10]. Very few studies have examined both demographic patterns and natural history of AAH, in USA, Europe and Israel.

The risk of alcoholic liver disease is related to the amount and duration of alcohol use and the gender (women seem to be more vulnerable than men even when drinking the same amounts) [11,12]. However, only a small proportion of heavy drinkers develop AAH, suggesting the significant role of host and environmental factors on the development of AAH [2,4,5,13-16]. The main objectives of this study were

- To find out the typical population with AAH in Israel
- To reveal their type of drinking habits
- To evaluate the prognosis and mortality of patients with AAH in southern Israel
- To guide physicians for further evaluation regarding AAH.

## Participants and Methods

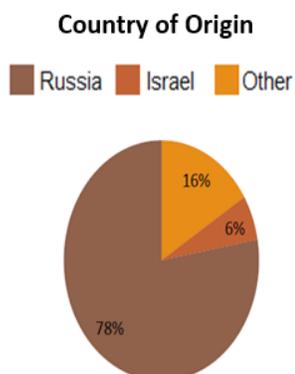
This study is concerned with retrospective observational cohort study of patients with well-characterized AAH in the years 1998-2017. All medical files of patients with “Acute Alcoholic hepatitis” or “Alcoholic Hepatitis”, “Alcoholic hepatitis with cirrhosis”, etc., were evaluated by a resident. Ninety-nine patients with “Acute Alcoholic Hepatitis”, were found. Information was obtained from computed medical file. Inclusion criteria included all patients that were hospitalized with diagnosis of “acute alcoholic hepatitis”. Pregnant women and minors were not included.

Statistical information was summarized with SPSS (version 18). Data was summarized in “prevalence tables”, summarized statistics and safety margins and standard p-value. All statistical tests were done with distinction of bilateral  $\alpha=0.05$ . Distribution of continuous variables with normal distribution was presented as average and standard deviation (Table 1).

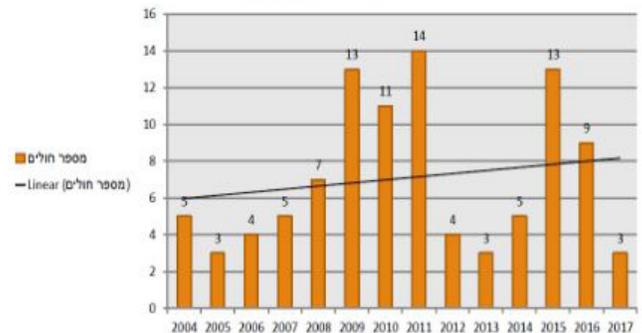
Country of origin	No Pts.
FSU	77
Israel	6
Another country	16
All	99

Table 1: Country of origin.

## Drinking habits



מספר חולים



## Results

### Demographic Details

The study included 99 patients admitted to Barzilai Medical Center in 2004-2017 due to “Acute Alcoholic Hepatitis”. Ninety-nine patients were diagnosed as c AAH. Mean age was 48, 72 (72.3%) were males and 27 were females (27.3%). Seventy-eight patients were born in Russia. Eighty-eight patients (88.9%) were admitted originally to internal medicine departments. Hundred thousand admissions to ED and 30000 admissions for hospitalization per year. Mean number of patients with AAH 99:14years, 14.1: 30,000, 0.047% of admissions for hospitalization were due to AAH. Mean alcohol amount that was consumed by males was 80 grams of alcohol per day. The amount of alcohol that was consumed by females was 40 grams of alcohol per day. Vodka was the most common source of alcohol with beer and wine coming next.

### Laboratory Examinations

Mean level of bilirubin was 13mg/dl, mean albumin level was 2.7g/dl. Mean transaminases levels was elevated and alkaline phosphatase was up to twice the upper level of norm. Leukocytosis and neutrophilia were also typical.

### Treatment

Corticosteroids and pentoxifylline were the most common medicines with N-Acetyl Cysteine less common.

### Prognosis

One-year survival was 60%. Most of the surviving patients were either transplanted or successfully withdrawn from alcohol.

## Discussion

A recent NIH study showed steep increase in the rate of alcohol-related ER visits of 50% between 2006-14 [17]. The number

of people in the USA who consumed alcohol and the amount of the alcohol consumed did not change much, but the rate of visits for acute alcohol consumption rose by 40%. The searchers suspect the increase in ED visits is related to the increase in the intensity of alcohol use among subset of drinkers. Alcoholic hepatitis may be caused by each day drinking, or a few days' week, such as on weekends. Any type of alcohol may cause disease. A binge drinking pattern is becoming increasingly prevalent, mainly among young individuals, but little is known about the impact on liver disease. Liver cirrhosis is seen only in minority of subjects with high alcohol consumption. Less than 10% of the consumers of more than 120 grams of alcohol per day have cirrhosis [17]. The incidence of alcohol abuse in Israel is much lower than in USA or west Europe, actually Israel and Turkey has the lowest incidence of alcoholism among youth, in the OECD [18], while the biggest surge in youth drinking was seen in Russia.

There is a worsening in alcohol use among Former Soviet Union (FSU) immigrants [18-20]. First generation FSU and second generation Ethiopian adolescents were found to have higher levels of binge alcohol drinking [21]. However, the fact that most of our patients were from former USSR should alert for increasing rate of binge alcohol drinking and more alcoholic hepatitis. The incidence of AAH of 0.047% in our hospital is much lower than the incidence of AAH admissions of 0.7% among American hospital admissions [17]. The ratio of females (20-25%) was similar to our modest group (27%). Women appear to be more vulnerable than man to many adverse consequences of alcohol abuse. Women achieve higher concentrations of alcohol in the blood and are more vulnerable than man in the same amounts of alcohol [22]. Compared with men, women develop alcohol-induced liver disease over a shorter period of time consuming alcohol and are more likely to develop AAH and to die from cirrhosis [22-24].

This may be related not only to the difference in the level of alcohol dehydrogenase but also to the female reproductive hormone estrogen [23]. Among Americans 10 percent of women and 22 percent of men consumed two or more drinks per day on average [25-29]. Women's drinking is most common between ages 26 and 34 and among women who are divorced or separated. The number of alcohol consumers was too small to show any statistical significant increase in the overall incidence of AAH. An increase in incidence among females. A remarkable Danish study followed 2000 patients with AAH during a decade and found an increasing incidence of AAH, both in males and females as well as an increase in mortality, both in the short term and in the long term [24]. The causes of death in AAH are primarily due to liver-related complications, suggesting that patients with AAH could benefit from continued follow-up by a hepatologist after the acute episode. Twenty percent of patients died within 3 months of admission and 31% within 10 years.

The short term mortality of AAH patients in our study was tremendous (40%) however not much different from mortality in western medical literature. Severe alcoholic hepatitis has 28 days' mortality of 25% to 50% in most studies [23-25]. Our patients had severe disease with Madrey score >32, so the one-year mortality of 40% is similar to other studies. All patients were treated with steroids, pentoxifyllin or both of them or even UDCA.

## Conclusions

Acute Alcoholic Hepatitis is much less common in Israel than in other OECD countries.

AAH incidence is increasing among females in Israel but it is still less common than among males

AAH has bad prognosis among patients with one-year mortality of up to 40 percent.

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