

Using French administrative database to assess patients with advanced nonalcoholic steatohepatitis

Objectives

Nonalcoholic steatohepatitis (NASH) is characterized by the presence of an abnormal accumulation of fat in the liver which in some individuals can progress to advanced liver disease such as hepatic decompensation and hepatocellular carcinoma (HCC).¹

NASH prevalence in patients with cirrhosis and/or HCC lies between 5 and 15% worldwide and it represents a growing burden.²

NASH is closely related to the epidemic of obesity and diabetes, and can be defined as the liver manifestation of the metabolic syndrome³. It is heavily influenced by lifestyle and differs from other fatty liver diseases caused by alcohol abuse or medication side effects.

As very few data are available in France on NASH patients and that there is no specific ICD-10 code, the objectives of this study were to assess the patients with advanced NASH in 2016 in France.

Methods

Study overview

A transversal study was realized using the 2016 French exhaustive National hospital discharge database (PMSI).

Data sources

The PMSI database covers all stays in French public and private hospitals. A standard discharge summary report is generated for each hospital stay and includes information on the patient's characteristics, diagnoses and procedures carried out. Diagnoses are coded using ICD-10 and medical procedures are coded using the French Classification Commune des Actes Médicaux (CCAM).

Methodology

As no specific NASH ICD-10 code is available, the study considered a stepwise approach to identify advanced NASH patients. The study included cirrhotic and HCC patients and excluded all other liver related disease codes as follows:

- **Cohort 1:** inclusion of all patients hospitalized (DP, DR, DAS) with cirrhosis of the liver (K74*,K717,K700,K703, excluding K740, K741,K742).

- **Cohort 2:** inclusion of all patients hospitalized (DP, DR, DAS) with HCC (C220).

In both cohorts, patients with other hepatitis diseases than NASH since 2006, such as hepatitis B, hepatitis C and alcoholic liver disease, were excluded through clinical review of the stays.

Relevant comorbidities were estimated using ICD-10 codes on 2016 and the previous year.

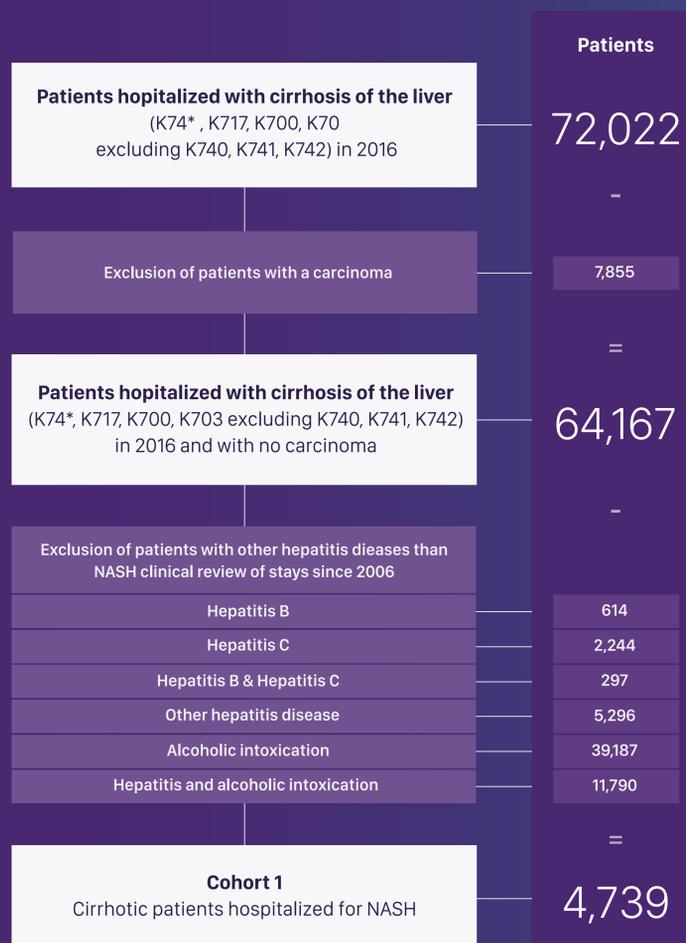
Comorbidity	ICD-10 codes
Obesity	E66*
Diabetes	E10*, E11*, E12*, E13*, E14*

Conclusion

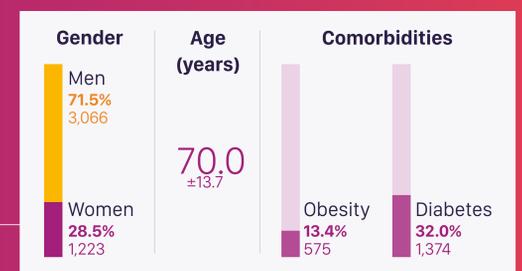
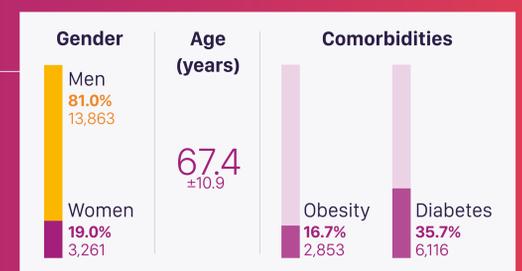
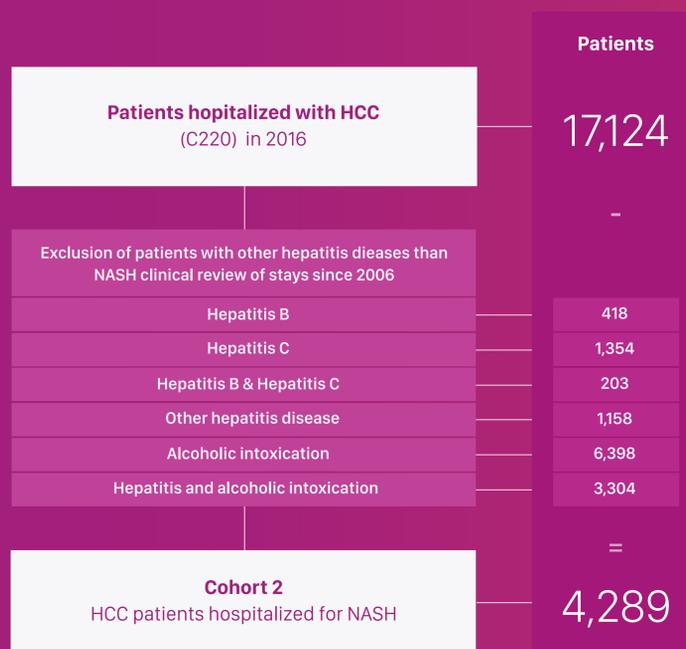
Stepwise algorithms were defined from French hospital discharge database PMSI to identify advanced NASH patients. It resulted in 4,739 NASH cirrhotic hospitalised patients and 4,289 NASH HCC hospitalised patients. Mean age was respectively 69 and 70 years old. Main comorbidities were obesity (respectively 24% and 13%) and diabetes (respectively 43% and 32%). This will lead to future studies to assess burden of disease of NASH in France.

Results

Cohort 1



Cohort 2



* Includes all sub-diagnoses

¹ Basaranoglu et al. Nonalcoholic Fatty Liver Disease: Clinical Features and Pathogenesis. Gastroenterol Hepatol (N Y). 2006 Apr; 2(4): 282–291.

² Younossi. The Epidemiology of Nonalcoholic Steatohepatitis, Clinical Liver Disease, Vol 11, n°4, April 2018.

³ The Nash Education Program, available at <https://www.the-nash-education-program.com/what-is-nash/>

