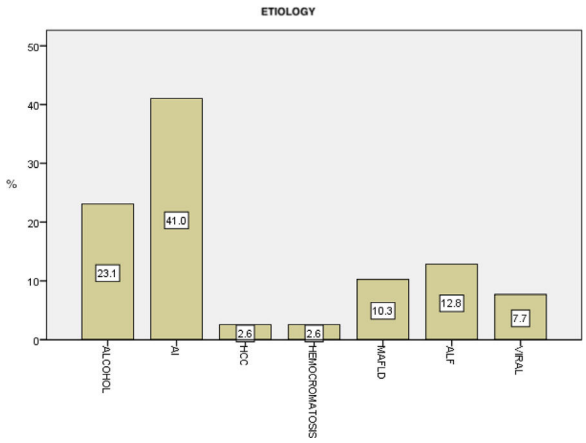

Figure 2. Etiology of liver transplantation (N=39)

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N-acetyl cysteine prevents alterations generated during experimental liver steatosis induced by a chronic consumption of alcohol plus a hypercaloric diet.

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Introduction and Objectives: : Metabolic alterations and alcohol consumption are the most common etiological agents related to hepatic steatosis (HS) development. There is little evidence that shows the effects generated by synergy of both etiologic agents. N-acetyl cysteine (NAC) is a drug whose efficacy in the early stages of SH, generated by a hypercaloric diet plus alcohol consumption, is unknown.

The aim of this work was to evaluate NAC effects on oxidative stress, and metabolic alterations induced in HS experimentally induced by chronic ethanol consumption plus a hypercaloric diet.

Materials and Patients: C57BL/6J mice (n=4) grouped into 1) Control; 2) HF/OH, administrated with hypercaloric diet and ethanol; 3) HF/OH+NAC, same treatments of group 2 plus NAC. Serum markers of liver damage and anorexigenic and orexigenic adipokines were evaluated; oxidative stress markers in liver samples were analyzed; finally, a H&E stain was performed. This project was conducted in accordance with the guidelines of the University of Guadalajara under the approval number of the bioethics, research, and ethics research committees CI-02920.

Results: NAC prevents weight gain and metabolic alterations generated by concomitant consumption of a hypercaloric diet and alcohol; this drug improves changes in anorexigenic and orexigenic adipokines such as leptin, ghrelin, resistin, GLP-1, and modulates total, HDL, and LDL cholesterol levels. On the other hand, NAC reduces CYP2E1 and alcohol dehydrogenase expression, as well as the oxidative environment induced by both etiological agents, by avoiding an increase in malondialdehyde levels, promoting Nrf2 transcription factor expression and superoxide dismutase; also preventing an increase in the expression of Catalase. Finally, H&E staining showed that NAC prevents the development of tissue alterations in the liver parenchyma generated by the consumption of a hypocaloric diet plus alcohol.

Conclusions: In this work, we demonstrate that NAC prevents metabolic alterations and oxidative damage related to early phases of HS induced by concomitant consumption of alcohol plus a hypercaloric diet. These effects would slow down the development of more severe stages of this disease.

Ethical statement

The study was conducted according to the guidelines of the Institutional Animal Care and Use Committee of UPAE-Bioterio at CUCS, University of Guadalajara (CI-02920).

Declaration of interests

None

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Hepatology at the Civil Hospital of Guadalajara, Fray Antonio Alcalde (HCGFAA) in the last 25 years and its international scientific productivity

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Introduction and Objectives: With the creation of the Doctorate Program in Molecular Biology in Medicine, the first clinical and molecular hepatology research studies began at the HCGFAA in 1998. SCOPUS uses the H-Index to assess researchers' quality and scientific productivity; however, this parameter does not evaluate co-authorship, first author, or corresponding author. This bibliometric study aimed to evaluate the scientific productivity of the Department of Genomic Medicine in Hepatology-HCGFAA (Jalisco) and its current ranking in Mexico.

Materials and methods: We searched the CONAHCYT database and selected the active hepatology researchers according to the platform's classification categories (July 2022). Subsequently, we recollected SCOPUS's H-Index and estimated the co-author's number (collaboration index) per article, first author and corresponding author.

Results: We identified 31 hepatology researchers in the National Researchers' System (SNI): 18 level I, 5 level II, and 7 level III categories. A 78% of them are located in: Mexico City (13), Jalisco (7), and Nuevo Leon (4). The average number of scientific publications/H-Index was 20/7.6 in the SNI researchers' level I, SNI II 24/9.4, and SNI III 142/31. A 29% of SNI I researchers' publications belonged to the first author and corresponding author articles, SNI II had 36%, and SNI III had 43%. The maximum number of authors per article ranged from 3 to 1055. The average of international citations in the SNI I category was 271, SNI II 619, and SNI III 3566.

Conclusions: The data shows a consolidation of hepatology at HCGFAA in Jalisco, as well as in Mexico City and Nuevo Leon. The bibliometric parameters allowed us to evaluate the researcher's contribution as the first or corresponding author. It also revealed that cases with many co-authorships and highly cited articles in first-quartile journals are related to the consensus, pharmaceutical industry, and epidemiological studies.