

Epidemiological Aspects of Cirrhosis at the Sominé Dolo Hospital in Mopti

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Abstract

Original Research Article

Introduction: Due to its frequency and its complications, it constitutes a major public health problem in the world, particularly in Africa. According to the WHO, 350 million people suffer from chronic liver disease in the world, and Africa has 60 million with a quarter of deaths per year. The objective of our study was to describe the epidemiological aspects of cirrhosis at the Sominé DOLO Regional Hospital in Mopti, the first in the region. **Methods and Patients:** This is a descriptive cross-sectional study extending from January 1, 2021 to December 2021, carried out in the medical department of the Sominé Dolo hospital in Mopti. The diagnosis of cirrhosis was retained in the face of arguments: clinical: oedemato-ascites syndrome, portal hypertension syndrome, hepatocellular insufficiency syndrome; biologicals of hepatocellular insufficiency syndrome; ultrasound suggestive of cirrhosis (hepatic atrophy, hepatomegaly, irregular contours, heterogeneous echostructure, portal trunk greater than 15 mm in diameter, maximum portal blood flow velocity less than 15 cm/s, superior splenic vein 10 mm, splenomegaly and ascites); endoscopic (esophageal varices, cardio-tuberosity varices, antral vascular ectasia, portal hypertension gastropathy. Despite these clinical, biological and imaging arguments, the diagnosis of certainty remains the liver biopsy puncture. **Result:** The analysis concerned 46 patients out of the 865 hospitalized patients, ie a frequency of 5.31%. The average age was 47.5 with extremes of 21 and 70 years. The most represented age group was 46 – 65 years old. The patients were divided into 34 men (73.9%) and 12 women (26.1%) i.e. a sex ratio of 2.8. Farmers/herders and housewives accounted for 76.1% (35/46) of the patients and the majority were rural (89.1%). The clinical signs found on hospitalization were: abdominal pain (82.6%), impaired general condition syndrome (80.4%), ascites (76.1%), OMI (58.7%), Hepatomegaly (52.2%), CVC (43.8%), jaundice (32.6%), clubbing (15.2%), splenomegaly (13%). HBsAg was positive in 39 (84.8%), total anti-Hbc Abs isolated in 5 patients (10.9%) and anti-HCV Abs in 2 (4.3%). The mean AFP was 16.1 with extremes of 0.54 and 78.1 IU. The size of the liver was abnormal on abdominal ultrasound in 38 patients (82.6%), heterogeneous in 41 patients (89.1%), the portal trunk was dilated in 34 patients (73.9%). Esophageal varices were found in 35 patients who performed gastroscopy, i.e. 76.2%. Our patients were classified as Child A (10.9%), Child B (47.8%) and Child C (41.3%). **Conclusion:** Our study has highlighted a high frequency of farmers/breeders and housewives. In this context, prevention through vaccination against HBV, early detection with treatment when indicated are very effective weapons at our disposal.

Keywords: epidemiology, cirrhosis, HSD-Mopti.

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1. INTRODUCTION

Cirrhosis, a consequence of chronic attack on the liver, is histologically defined as a diffuse process, associating mutilating fibrosis (concentric), associated and of the regeneration hepatocyte nodules [1]. By its frequency and its complications, cirrhosis constitutes a major health problem public in the world, particularly in Africa [2]. Etiologies are numerous and diverse,

dominated by alcohol in the West, viral B and/or C liver disease in developing countries [3].

Indeed, Africa is considered with South-East Asia as a zone of high endemicity where the prevalence of chronic infection with the hepatitis B virus is at least 8%. According to the WHO, 350 million people suffer from chronic liver disease in the world, and Africa has

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60 million with a quarter of deaths per year (Sombié *et al.*, 2010) [4].

In Mali, the incidence varied between 48.27% and 58.24% [5].

The aim of our work is to describe the epidemiological, diagnostic and etiological aspects of cirrhosis at the Sominé DOLO regional hospital in Mopti.

2. MATERIALS AND METHODS

The study took place in the medical department of the Sominé Dolo hospital in Mopti, which brings together several medical specialties including cardiology, infectiology, neurology, dermatology, hematology, nephrology and Hepato-gastroenterology. This is a descriptive cross-sectional study with retrospective data collection, from January 2021 to December 2021, i.e. a period of 12 months.

All records of patients diagnosed with cirrhosis during the study period and meeting the inclusion criteria were selected. Included were hospitalized patients in whom the diagnosis of cirrhosis was retained on the basis of clinical arguments:

- an edemato-ascites syndrome,
- a portal hypertension syndrome (collateral venous circulation, ascites, splenomegaly)
- a hepatocellular insufficiency syndrome (jaundice, clubbing, hair loss, gynecomastia, testicular atrophy, spider angioma, palmar erythrosis);

Biological arguments for hepatocellular insufficiency (hypoprotidemia, TP and low factor V)

- Imaging suggestive of cirrhosis (hepatic atrophy, hepatomegaly, irregular contours, heterogeneity of the echo structure, portal trunk greater than 15 mm in diameter, maximum portal blood flow velocity less than 15 cm/s, average speed less than 12 cm/s, splenic vein greater than 10 mm, splenomegaly and ascites).
- Patients whose records were incomplete or unusable were excluded. A survey sheet was created for the collection of data, which were entered and analyzed using a computer on EXCEL 2010 software.

3. RESULTS

3.1. Sociodemographic characteristics

The analysis concerned 46 patients out of the 865 hospitalized patients, i.e. a frequency of 5.31%. The average age was 47.5 with extremes of 21 and 70 years. The most represented age group was 46 – 65 years old. The patients were divided into 34 men (73.9%) and 12 women (26.1%) i.e. a sex ratio of 2.8. Farmers/herders and housewives accounted for 76.1% (35/46) of the patients and the majority were rural (89.1%) (Table 1).

3.2. Clinical, paraclinical and biological characteristics

The clinical signs found on hospitalization were: abdominal pain (82.6%), impaired general condition syndrome (80.4%), ascites (76.1%), lower limb edema (58.7%), hepatomegaly (52.2%), collateral venous circulations (43.8%), jaundice (32.6%), clubbing (15.2%), splenomegaly (13%), hepatic encephalopathy (10, 9%), scratch lesion (10.9%).

HBsAg was positive in 39 (84.8%), total anti-Hbc Abs isolated in 5 patients (10.9%) and anti-HCV Abs in 2 (4.3%). The Alpha foetoprotein mean was 16.1 with extremes of 0.54 and 78.1 IU. The size of the liver was abnormal on abdominal ultrasound in 38 patients (82.6%), heterogeneous in 41 patients (89.1%), the portal trunk was dilated in 34 patients (73.9%), splenomegaly (91.3%) and ascites (76.1%). Esophageal varices were found in 35 patients who performed gastroscopy (76.2%).

Our patients were classified as Child A (10.9%), Child B (47.8%) and Child C (41.3%) (Table 2).

4. DISCUSSION

4.1. Constraints and limits

Our study generally has the limits inherent in any retrospective study with its share of missing data. Thus the diagnosis of cirrhosis was essentially made on the basis of all the clinical, biological and ultrasound criteria and the signs of endoscopic portal hypertension.

4.2. Sociodemographic and epidemiological aspects

The analysis concerned 46 patients out of the 865 hospitalized patients, ie 5.31%. This frequency is lower than Somé *et al* in Burkina and Sehonou in Cotonou 2019, who found respective hospital frequencies of 33.9% and 22.2%. These high rates could be explained by the different levels of education. The two studies were carried out in specialized departments, whereas in our context, the medical department of the Sominé Dolo hospital in Mopti includes more than eight different specialties. To this, we can add the very difficult movement of our patients from the interior, since the Mopti Region is the center of the country, under the threat of armed terrorist groups for more than a decade. Some patients prefer local care despite the complications.

The average age (standard deviation) was 47.5 (± 13.1) with extremes of 21 and 70 years. The most represented age group was between 46 and 65 years old. This result can be superimposed on that (Sawagodo, 2011; Burkina Faso which reported an age range between 41 – 60 years old. These figures show that our patients are younger in Africa and particularly in our country, compared to those in countries (Beste *et al.*, 2015).

The difference in risk factors for cirrhosis in the West (predominance of the risk factor alcohol) and later onset of cirrhosis and in countries with limited resources (predominance of viral liver infections of early acquisition in the first years of life and the lack of early screening for adequate management) (Askgaard G *et al.*, 2015) M^q the sex ratio 2.8, if we retain the "gender" variable, it is established that liver damage is a predominantly male pathology (Greten, 2019; Sagnelli *et al.*, 2018, Kondé *et al.*, 2022). This rate has just confirmed this finding. ^ m. Farmers/herders and housewives accounted for 76.1% (35/46). Overcrowding, lack of information on the mode of transmission of HBV and HCV are the vulnerability factors for this target group.

4. 3. Clinical, paraclinical and biological characteristics

None of our patients was vaccinated against hepatitis B and of the 46 patients, HBsAg represented t (84.8%) and anti-HCV antibody (4.3%) as in many other studies [8, 12]. This suggests that virtually all patients had the risk factor for viral infection.

The clinical signs found on hospitalization were: abdominal pain (82.6%), syndrome of impaired general condition (80.4%), ascites (76.1%), OMI (58.7%), hepatomegaly (52.2%), CVC (43.8%), jaundice (32.6), clubbing (15.2%), splenomegaly (13%). HBsAg was positive in 39 (84.8%), total anti-Hbc Abs isolated in 5 patients (10.9%) and anti-HCV Abs in 2 (4.3%).

The mean AFP was 16.1 with extremes of 0.54 and 78.1 IU. The size of the liver was abnormal on abdominal ultrasound in 38 patients (82.6%), heterogeneous in 41 patients (89.1%), the portal trunk was dilated in 34 patients (73.9%). Esophageal varices were found in 35 patients who performed gastroscopy, i.e. 76.2%. Our patients were classified as Child A (10.9%), Child B (47.8%) and Child C (41.3%).

However, none of our patients benefited from liver biopsy. This examination, in addition to being invasive, involves the risk of bleeding and patient reluctance (Jin *et al.*, 2012; Machado, 2011) were the limiting factors. The diagnosis of cirrhosis was retained before the bundles of clinical, biological and imaging arguments.

Table 1: Sociodemographic characteristics (N=46)

Variables	Frequency	Percentage
Sex		
Male	34	73.9
Feminine	12	36.1
Age groups		
[inf - 25]	3	6.5
[26-45]	17	36.9
[46-65]	22	47.8
[66-+]	4	8.7
Occupation		
Farmer	19	41.3
Housewife	8	17.4
Trader	4	8.7
Official	5	10.9
Breeder	8	17.4
Military	1	2.2
Student/Pupil	1	2.2

Table 2: Distribution of patients according to clinical, paraclinical and biological characteristics

Variables	Frequency	Percentage
Clinical signs		
Abdominal pain	38	82.6
Ascites	35	76.1
Hepatomegaly	24	52.2
Jaundice	15	32.6
HVAC	20	43.8
Splenomegaly	6	13
Encephalopathy	5	10.9
IMO	27	58.7
Scratch lesion	5	10.9
AEG syndrome	37	80.4
Digital clubbing	7	15.2

Gastroscopy results		
VO Grade I	5	10.9
VO Grade II	21	45.7
VO Grade III	9	19.6
No	11	23.9
Viral markers		
HBsAg +	39	84.8
Ac Anti Hbc total isolated	5	10.9
Ac anti HCV +	2	4.3
CHILD PUGH		
Pugh A	5	10.9
Pugh B	22	47.8
Pugh C	19	41.3

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