

# Epidemiological, Clinical, Paraclinical, Etiological and Therapeutic Aspects of Liver Cirrhosis in the Hepato-Gastroenterology Department of the Hospital Aristide Le Dantec in Dakar

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## Abstract

**Introduction:** Liver cirrhosis is a global public health issue. Our aim was to determine the epidemiological, clinical, paraclinical and therapeutic aspects of liver cirrhosis in the hepato-gastroenterology department of the hospital Aristide Le Dantec in Dakar. **Patients and Methods:** We conducted a retrospective study with a descriptive focus covering the period from January 1<sup>st</sup>, 2010 to December 31, 2020. We included the medical records of patients which presented body of clinical and paraclinical arguments which supported the diagnosis of cirrhosis. The data collected were related to age, gender, clinical, paraclinical, therapeutic and prognosis aspects of cirrhosis and were analyzed with the software Sphinx Plus. **Results:** Prevalence of cirrhosis was 6.2%. Sex ratio was 2.1%. The average age was 38 years. Asthenia (60.9%), altered performance status (60.1%), abdominal pain (37.2%), gastrointestinal bleeding (29.6%) and abdominal swelling (27.8%) were the most common motives of consultation. Physical examination revealed primarily portal hypertension (74.9%), liver failure (2.4%), hepatomegaly (28.2%) and anemia (13.7%). Viral hepatitis B was the most common etiology (81.9%). Abdominal screening (ultrasound/CT scan) showed hepatomegaly (80.6%), liver dysmorphia (87.7%), portal hypertension signs (85.3%) and portal vein thrombosis (18.2%). 55.1% Patients were classified as Child Pugh A, 33.8% were Child Pugh B and 11.1% were Child Pugh C. Tenofovir Disoproxil Fumarate (TDF) was prescribed to all patients affected by hepatitis B virus only. Evolution was characterized by

clinical improvement and prognosis reclassification. **Conclusion:** Liver cirrhosis is a frequent pathology in the hepato-gastroenterology department of the hospital Aristide Le Dantec in Dakar. It affects young male adult. Hepatitis B virus is the leading cause. TDF is an effective treatment.

## Keywords

Cirrhosis, Viral Hepatitis B, Portal Hypertension, Liver Failure, Hepatomegaly

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## 1. Introduction

Liver cirrhosis is a global public health issue. It results from, among other factors, chronic hepatic inflammation caused by various pathologies, leading to the hepatic tissue replacement with fibrotic tissue and progressive hepatic dysfunction [1] [2].

Cirrhosis prevalence and incidence are not well-known. It is estimated that one out of three cirrhosis, goes undetected due to the clinical latency which characterizes the disease. More often, it appears at a stage of complications that can be life-threatening with a very high morbidity/mortality rate [3] [4].

Etiological treatment plays a crucial role in the management as it can improve the prognosis.

In Senegal, few studies have been conducted on liver cirrhosis. To contribute to a better understanding of the pathology, which etiologies vary according to geographical regions, we have conducted a retrospective study aimed at describing the epidemiological, clinical, paraclinical, etiological and therapeutic aspects of cirrhosis in the hepato-gastroenterology department of the hospital Aristide Le Dantec in Dakar.

## 2. Patients and Methods

It was a retrospective study with a descriptive focus covering the period from January 1<sup>st</sup>, 2010 to December 31<sup>st</sup> 2020 in the hepato-gastroenterology department of the hospital Aristide Le Dantec in Dakar. Our study population was composed of hospitalized and/or ambulatory patients.

We included patient medical records which presented body of clinical and paraclinical arguments which supported the diagnosis of cirrhosis. Patients presented with one or more of the following signs:

- Clinical signs: shrunken liver, hepatomegaly, portal hypertension signs (collateral venous circulation, splenomegaly, ascites), liver failure (oedema of the lower limbs, jaundice, spider nevi, palmar erythema, digital clubbing, asterixis, fetor hepaticus, gynecomastia, hepatic encephalopathy).
- Biological signs: decreased prothrombin time, thrombocytopenia, hypoalbuminemia.
- Radiological signs: dysmorphic liver, with irregular contours, heterogenous liver parenchyma, dilated portal vein, splenomegaly, ascites, portocaval shunts.

- Endoscopic signs: gastroesophageal varices, hypertensive gastropathy.

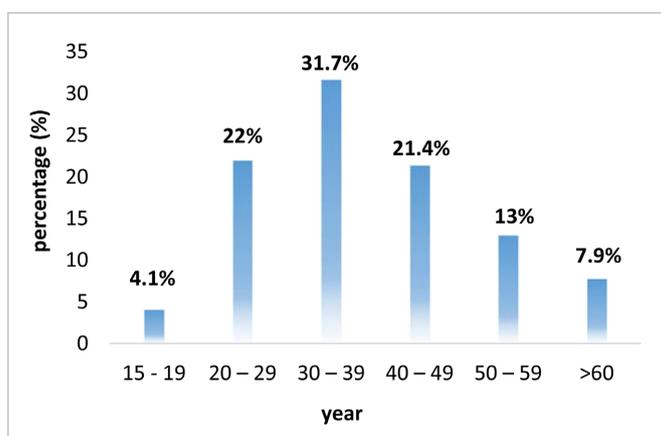
The medical records of patients which did not contain enough diagnosis arguments in favor of cirrhosis, were not included.

The data collected in patients' records were related to age, gender, clinical (cirrhosis signs and associated signs), paraclinical (biological, radiological and endoscopic signs), therapeutic and prognosis aspects (Child-Pugh classification and cirrhosis complications) of cirrhosis and were analyzed using the software Sphinx Plus.

### 3. Results

We included 486 patients. Cirrhosis prevalence was 6.2%. There were 332 (68.3%) men representing a sex ratio of 2.1. Average age was 38 years with extremes of 15 and 92 years, and 79% of patients were under 50 (**Figure 1**).

Asthenia (60.9%) altered performance status (60.1%), abdominal pain (37.2%), gastrointestinal bleeding (29.6%) and abdominal swelling (27.8%) were the most common presenting complaint (**Table 1**). Average time to consultation was 6.2



**Figure 1.** Distribution of patients by age.

**Table 1.** Distribution of patients by motives of consultation.

Motives of consultation	Cases number	Frequency (%)
Asthenia	296	60.9
Altered performance status	392	60.1
Abdominal pain	171	37.2
Gastrointestinal bleeding	154	29.6
Abdominal swelling	135	27.8
Pruritis	130	26.7
Headache	63	13.6
Dyspnea	21	4.8
Constipation	19	3.9
Hepatic encephalopathy	2	0.4

weeks. Chronic HBS Ag carriage was found in 7 patients (1.4%). Familial medical history of hepatocellular carcinoma and chronic hepatitis B infection were respectively found in 25 (5%) and 20 (4%) patients.

Chronic tobacco consumption was present in 5.7% of cases. Alcohol consumption was signaled in 2.3% of cases; however, it was not quantified.

Interrogatory of patients revealed the used of oral phytotherapy in 13.7% of cases. Physical examination showed primarily portal hypertension signs (74.9%), liver failure (2.4%), hepatomegaly (28.2%) and anemia (13.7%) (**Table 2**).

Decompensation was marked by ascites in 154 patients (31.7%). The ascitic fluid was yellow citrine in 74.8% of cases, serohematic in 5.9% of cases, hazy in 15.5% of cases, chylous in 3.8% of cases. Spontaneous bacterial peritonitis was noted in 18 patients (3.7%).

Biological exams revealed elevated transaminases in 87.7% of cases, cholestasis in 59.2% of cases and liver failure in 61.3% of cases. Causes of cirrhosis was hepatitis B infection (81.9%). A coinfection with hepatitis C was present in 5 patients (1%), hepatitis D virus in 27 patients (5.6%) and HIV in 2 patients (0.4%)

Abdominal screening (ultrasound/CT scan) showed hepatomegaly (80.6%), liver dysmorphism (87.7%), portal hypertension signs (85.3%) and portal vein thrombosis (18.2%).

It highlighted typical image of hepatocellular carcinoma (HCC) which is arterial enhancement and washout on portal phase in 28.4% of cases. Upper endoscopy showed esophageal varices in 89.2% of patients and gastric varices in 12%.

Patients were classified as Child Pugh A in 55.1% of cases, Child Pugh B in 33.8% and 11.1% were Child Pugh C.

**Table 2.** Distribution of patients by physical examination signs.

	Signs	Cases number	Frequency (%)
	Hepatomegaly	134	28.2
	Shrunken liver	12	2.5
Liver Failure	Hepatic encephalopathy	7	1.4
	Digital clubbing	2	0.4
	Palmar erythema	1	0.2
	Fetor hepaticus	1	0.2
	Gynecomastia	1	0.2
Portal hypertension	CVC	37	7.6
	Ascites	154	31.7
	Splenomegaly	178	35.6
Cholestasis	Scratch induced lesions	2	0.4
	Anemia	64	13.7

CVC: collateral venous circulation.

Tenofovir Disoproxil Fumarate (TDF) was prescribed to all patients who were affected with hepatitis B virus only associated with a symptomatic treatment. Average follow-up time was 23 months [1 - 52 months]. Evolution was characterized by clinical improvement and prognosis reclassification. Patients who were classified Child-Pugh B were reclassified as Child A in 28.2% of cases, and those who were classified as Child-Pugh C were classified as Child B in 16.4% of cases.

We noted 36 cases of death (7.4% of cases). Causes of death were liver degeneration in 22 patients (61.2%), digestive hemorrhage in 8 patients (22.2%), hepatic encephalopathy in 3 patients (8.3%) and an infectious complication in 3 patients (8.3%).

#### 4. Discussion

Cirrhosis remains a major cause of morbidity and mortality in the world despite the breakthroughs made in its prevention, particularly the treatment of hepatitis B and C [5].

Its prevalence varies depending on region. In our study, it was 6.2%. A previous Senegalese hospital study noted a prevalence of 9.1% [6]. In 2017, in the world, 10.6 million prevalent cases (10.3 - 10.9) of decompensated cirrhosis were registered and 112 (107 - 119) prevalent cases of compensated cirrhosis.

In France, prevalence varied between 0.3 and 0.6% [5]. Cirrhosis represented 33.9 et 22.6% of hospitalization motives respectively in Burkina Faso [7] and in Benin [8].

Male predominance was largely noted in published data [4] [7]-[14]. The young age of our patients was also found in other studies, notably in Africa [4] [6] [7] [8] [14]. The age of cirrhotic patients varies depending on the geographical zone and the etiology. Indeed, the disease appears at advanced age in regions where chronic alcohol use is predominant, and earlier in zones where hepatitis B infection is endemic [11] [12] [13].

Time to consultation delay was 6.2 weeks (44 days). It was 99 days in Guingané's study in Burkina Faso [7]. This long delay can be associated with, on one hand, the disease's clinical latency particularly during the compensated phase in which the patient is asymptomatic or presents minor symptoms, and on the other hand, the resort to traditional medicine and phytotherapy which can accelerate liver dysfunction. It was hepatitis B induced cirrhosis in 81.9% of cases. In Senegal 10% of the population are chronic carriers of HBS Ag and other studies have shown it is the first cause of cirrhosis [6] [15].

Prescription of Tenofovir Disoproxil Fumarate (TDF) has resulted in the improvement of the liver function in some patients marked by a decrease of the Child-Pugh score.

Treatment of the etiology changes significantly the disease's natural history. Marcellin *et al.* showed that long term TDF therapy led to fibrosis regression in hepatitis B virus induced cirrhosis [16] [17].

## 5. Conclusion

Liver cirrhosis is a frequent pathology in the hepato-gastroenterology department of the hospital Aristide Le Dantec in Dakar. It occurs more often in young male adult. Hepatitis B virus is the principal cause. TDF is an effective treatment enabling regression of the disease. However, the carcinogenic character of the HBV and preneoplastic of cirrhosis necessitate a prevention that requires an effective immunization policy against the hepatitis B virus and the management of hepatitis B infection.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- [1] Di Martino, V. and Weil-Verhoeven, D. (2020) Prise en charge et surveillance de la cirrhose. *EMC-Hépatologie*, **35**, 1-15.
- [2] Bernsmeiera, P.C. and De Gottardib, A. (2018) Hépatologie: La cirrhose hépatique n'est plus ce qu'elle était! *Forum Médical Suisse*, **18**, 1090-1092. <https://doi.org/10.4414/fms.2018.08015>
- [3] Hytioglou, P., Snover, D.C., Alves, V., Balabaud, C., Bhathal, P.S., Bioulac-Sage, P., *et al.* (2012) Beyond "Cirrhosis": A Proposal from the International Liver Pathology Study Group. *American Journal of Clinical Pathology*, **137**, 5-9. <https://doi.org/10.1309/AJCP2T2OHTAPBTMP>
- [4] Mokdad, A.A., Lopez, A.D., Shahrzaz, S., Lozano, R., Mokdad, A.H., Stanaway, J., *et al.* (2014) Liver Cirrhosis Mortality in 187 Countries between 1980 and 2010: A Systematic Analysis. *BMC Medicine*, **12**, Article No. 145. <https://doi.org/10.1186/s12916-014-0145-y>
- [5] Sadaf, S., Saeid, S., Catherine, B. and Kevin, I. (2020) The Global, Regional, and National Burden of Cirrhosis by Cause in 195 Countries and Territories, 1990-2017: A Systematic Analysis for the Global Burden of Disease Study. *The Lancet Gastroenterology and Hepatology*, **5**, 245-266. [https://doi.org/10.1016/S2468-1253\(19\)30349-8](https://doi.org/10.1016/S2468-1253(19)30349-8)
- [6] Dia, D., Diouf, G., Gueye, M.N., Cissé, C.A.B., Cissé, M., *et al.* (2019) Clinical, Paraclinical and Etiological Aspects of Cirrhosis in a Department of Internal Medicine in Senegal. *Advanced Research in Gastroenterology & Hepatology*, **12**, Article ID: 555836. <https://doi.org/10.19080/argh.2019.12.555836>
- [7] Nagaonlé Somé, E., Guingané, N.A., Télarpoa Lompo, I. and Sombié, R. (2021) Cirrhose du foie: Aspects épidémiologiques et diagnostiques au centre hospitalier universitaire Yalgado Ouédraog. *Revue Africaine des Sciences Sociales et de la Santé Publique*, **3**, 54-64.
- [8] Sehonou, J., Kodjoh, N., Sake, K. and Mouala, C. (2010) Cirrhose hépatique à Cotonou (République du Bénin): Aspects cliniques et facteurs liés au décès. *Médecine Tropicale*, **70**, 375-378.
- [9] Bouglouga, O., Bagny, A. and Djibril, A. (2012) Aspects épidémiologique, clinique et évolutif de la cirrhose du CHU Campus de Lomé. *Journal de la Recherche Scientifique de l'Université de Lomé*, **14**, 1-7.

- [10] Doffou, A.S., Bangoura, A.D., Kouamé, G.D., Yaogo, A., Meite, M., Kissi, H. and Attia, K.A. (2019) La cirrhose alcoolique chez le noir africain au centre hospitalier universitaire de Yopougon: Caractéristiques épidémiologiques, cliniques et biologiques. *Revue Internationale des Sciences Médicales d'Abidjan-RISM*, **21**, 212-218.
- [11] Tsochatzis, E.A., Bosch, J. and Burroughs, A.K. (2014) Liver Cirrhosis. *The Lancet*, **383**, 1749-1761. [https://doi.org/10.1016/S0140-6736\(14\)60121-5](https://doi.org/10.1016/S0140-6736(14)60121-5)
- [12] Ganne-Carrié, N. (2017) Epidemiology of Liver Cirrhosis. *La Revue du Praticien*, **67**, 726-730.
- [13] Steven, S., Stéphanie, K., Guichan, C., David, S., Ramon, D., Amy, L. and Michael, L. (2015) The Epidemiology of Cirrhosis in the United States. A Population-Based Study. *Journal of Clinical Gastroenterology*, **49**, 690-696. <https://doi.org/10.1097/MCG.000000000000208>
- [14] Mbendi, C.N., Nkodila, A., Zingondo, J.C.B., Manangama, C.N., *et al.* (2018) Aspects épidémio-cliniques et évolutifs de la Cirrhose du foie à Kinshasa: Etude Multicentrique. *Annales Africaines de Medecine*, **11**, e2814-e2822.
- [15] Mbengue, M., Diouf, M.L., Pouye, A., Ndiaye, F.S., Mbengue, I., *et al.* (2003) Gastrointestinal Hemorrhage in Cirrhosis at Dakar. Predictive Factors Study. *Dakar Medical*, **48**, 213-218.
- [16] Marcellin, P., Gane, E., Buti, M., Afdhal, N., Sievert, W., Jacobson, I.M., *et al.* (2013) Regression of Cirrhosis during Treatment with Tenofovir Disoproxil Fumarate for Chronic Hepatitis B: A 5-Year Open-Label Follow-Up Study. *The Lancet*, **381**, 468-475. [https://doi.org/10.1016/S0140-6736\(12\)61425-1](https://doi.org/10.1016/S0140-6736(12)61425-1)
- [17] Diallo, S., Bassène, M.L., Gueye, M.N., Fall, M.P., Thioubou, M.A., *et al.* (2021) Efficacy and Safety of Tenofovir Disoproxil Fumarate in Senegalese Patients with Chronic Hepatitis B. *Advanced Research in Gastroenterology & Hepatology*, **18**, Article No. 555.