


Evolutionary and Pronostic Aspects of Cirrhosis at the University Hospital of Brazzaville (Congo)

Jile Florient Mimiessse^{1,2} , Ngalessami Mouakosso Marlyse², Ahoui Apendi Clausina^{1,2}, Mongo Onkouo Arnaud^{1,2}, Atipo-Ibara Ollandzobo Lucie¹, Firmin Bossali¹, Akoa Ngala Itoua-Ngaporo^{1,2}, Rody Stéphane Ngami^{1,2}, Mahoungou Gael Honal¹, Deby Gassaye^{1,2}, Atipo Ibara Blaise Irénée^{1,2}, Ibara Jean-Rosaire^{1,2}

¹Faculty of Health Sciences, Marien Ngouabi University, Brazzaville, Congo

²Gastroenterology Service, University Hospital of Brazzaville, Brazzaville, Congo

Email: jilemimiesse@yahoo.fr

How to cite this paper: Mimiessse, J.F., Marlyse, N.M., Clausina, A.A., Arnaud, M.O., Lucie, A.-I.O., Bossali, F., Itoua-Ngaporo, A.N., Ngami, R.S., Honal, M.G., Gassaye, D., Irénée, A.I.B. and Jean-Rosaire, I. (2020) Evolutionary and Pronostic Aspects of Cirrhosis at the University Hospital of Brazzaville (Congo). *Open Journal of Gastroenterology*, 10, 23-29.

<https://doi.org/10.4236/ojgas.2020.101003>

Received: August 26, 2019

Accepted: January 5, 2020

Published: January 8, 2020

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Abstract

Introduction: cirrhosis is a serious pathology that leads to complications whose management remains difficult in our country. This study aimed to evaluate the evolutionary aspects of cirrhosis at the Brazzaville University Hospital. **Patients and methods:** this was a retrospective study over a period of 18 months (from January 2015 to July 2016), performed in the Gastroenterology Department of the Brazzaville University Hospital. All patients regularly followed for decompensated cirrhosis were included. The studied variables were the epidemiological, clinical and paraclinical characteristics, the occurrence of complications, the survival, and the causes of death. Univariate analysis was used to determine prognostic factors based on the Child Pugh score. **Results:** There were 43 patients, including 32 men and 11 women, with a mean age of 52 ± 9.5 years. Viral hepatitis B was the most common etiology (39.5%). Child Pugh stage C was found in 60.5%. Oesophageal varices were present in 93% of cases. Survival at 18 months was 72%. In univariate analysis, two variables were significantly associated with decreased survival, including Child Pugh stage C and esophageal varices (grade II and III). **Conclusion:** cirrhosis remains a worrying pathology because the diagnosis is often made at the stage of often serious complications putting at risk of vital prognosis.

Keywords

Cirrhosis, Evolution, Brazzaville

1. Introduction

Cirrhosis is the ultimate stage of evolution of chronic liver disease. It is a serious pathology whose evolution is peppered with complications that evolve towards death [1]. Early diagnosis involves the means of investigation, the most recent of which are the non-invasive tests for fibrosis [2]. The lifespan of patients with cirrhosis is influenced by etiological, sociodemographic factors, the stage of development at the time of diagnosis and the level of the technical plateau [3] [4] [5].

The management of cirrhosis and its complications is difficult in Congo, where the means of early diagnosis and specific therapeutic means are not available [4] [5].

In order to improve the management of cirrhosis and its complications, we conducted this study whose main objective was to evaluate the evolutionary aspects of cirrhosis.

2. Patients and Methods

This was a retrospective study from January 2015 to July 2016, for a period of 18 months. The study took place in the Department of Gastroenterology and Internal Medicine (GEMI) of the Brazzaville University and Hospital Center. We included patients whose discharge diagnosis was decompensated cirrhosis and who received regular follow-up after discharge. The diagnosis was made in the presence of signs of hepatocellular insufficiency, signs of portal hypertension and liver characteristics. Hepatic biopsy (PBH) was not performed due to lack of material for transjugular PBH and all patients were seen at the decompensation stage preventing transparietal PBH. Patients who died during hospitalization, who were released against medical advice or were lost to follow-up, were not included in the study. After discharge, all patients were reviewed one week later, then every two weeks, and once a month, depending on the outcome. The study variables were: socio-demographic (age, sex, occupation), reason for hospitalization, etiology of cirrhosis, Child Pugh stage, complications during follow-up, patient outcome, circumstances death, survival time and correlations between death and the variables studied. The size of our sample was evaluated by the Shwartz formula.

All data were collected on a survey sheet and analyzed on epi-info version 6.0). The Chi-square test was used to compare our results that were significant for a probability $p < 0.05$. The survival curve was made according to the Kaplan Meier Method.

3. Results

During the study period, 2312 patients were hospitalized in the GEMI department of the University Hospital of Brazzaville, including 203 cases (8.7%) of cirrhosis. Forty-three cases meeting our inclusion criteria were selected.

Men accounted for 74.4% of cases ($n = 32$) and women for 25.6% of cases ($n =$

11). The sex ratio of 2.9. The average age was 52 ± 9.5 years with extremes ranging from 21 to 79 years. The most represented age group was 40 to 59 years old.

The average consultation time was 4 weeks with extremes ranging from less than a week to three months.

The most common clinical signs were ascitic and edema of the lower limbs (see **Table 1**).

In our study 60.5% of patients were classified as Child Pugh C, 30.9% were Child Pugh B and 9.2 were Child Pugh A.

Oesophageal varices were found in 93% of patients ($n = 40$) and HTP gastro-pathy in 25.6% of patients ($n = 11$).

In 65% of the cases ($n = 37$) cirrhosis was viral in origin, related to B virus in 39.5% of cases. The concept of oenolism was found in 20.9% of patients, 9.3% of whom were associated with the hepatitis B virus.

Regarding evolutionary data, the overall duration of follow-up was 18 months with extremes ranging from 6 to 18 months. The main complication during follow-up was refractory ascites (see **Table 2**).

In our study, overall survival was 72% according to the Kaplan Meier method (see **Figure 1**).

The main causes of death were hepatic encephalopathy in 36.4% of cases ($n = 4$), gastrointestinal bleeding in 27.3% of cases ($n = 3$), hepatorenal syndrome in 18.1% of cases ($n = 2$), ascites fluid infection and hepatocellular carcinoma in 9.1% ($n = 1$) respectively.

In univariate analysis mortality was significantly related to the Child Pugh stage ($p = 0.0088$) and to the presence of large oesophageal varices ($p = 0.01$) (see **Table 3**).

Table 1. Distribution of patients by clinical signs.

| Clinical signs | Effective | % |
|----------------------------------|-----------|------|
| Ascites | 36 | 83.7 |
| Edema of the lower limbs | 31 | 72.1 |
| Hepatomegaly | 14 | 32.6 |
| Splenomegaly | 12 | 27.9 |
| Icterus | 11 | 25.6 |
| Circulation veineuse collatérale | 8 | 18.6 |
| Digital Hippocratism | 8 | 18.6 |
| Hepatic encephalopathy | 7 | 16.3 |
| Pleurisy | 6 | 14 |
| Melena | 3 | 7 |
| Signs of alcoholism | 2 | 4.7 |
| Hematemesis | 2 | 4.7 |
| Gynecomastia | 1 | 2.3 |
| Fetor hepatis | 1 | 2.3 |

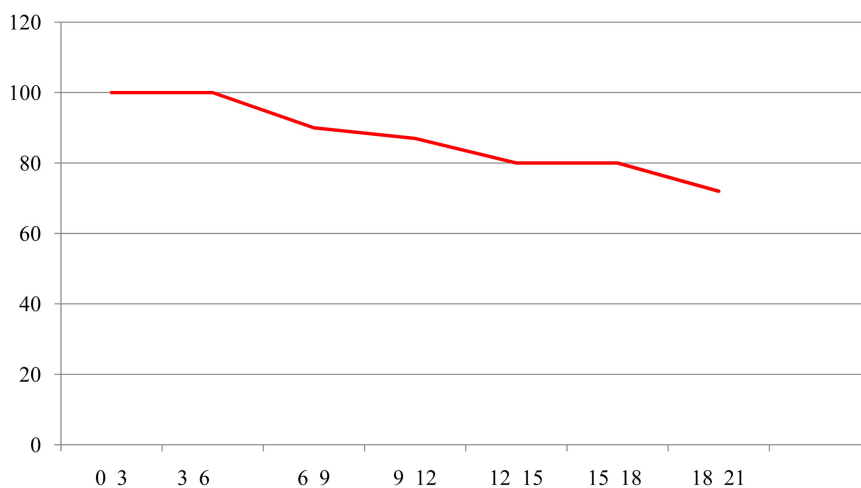


Figure 1. Kaplan meier survival curve.

Table 2. Distribution of patients by complications during follow-up.

| | 6 months n = 43 | 12 months n = 43 | 18 months n = 43 |
|--------------------------------|--------------------|---------------------|---------------------|
| Ascites fluid infection | 6 (13.9%) | 4 (9.3%) | 3 (7%) |
| Gastrointestinal bleeding | 6 (13.9%) | 5 (11.6%) | 4 (9.3%) |
| Hepatic encephalopathy | 5 (11.6%) | 6 (13.9%) | 8 (18.6%) |
| Hepatocellular carcinoma | 1 (2.3%) | 2 (4.6%) | 3 (7%) |
| Hepatorenal syndrome | 1 (2.3%) | 3 (7%) | 3 (7%) |
| Ascites or his aggravation | 22 (51.1%) | 18 (41.9%) | 27 (62.8%) |

Table 3. Univariate analysis of death-related factors.

| | Living | deceased | Total |
|---------------------------------|------------|------------|-----------|
| Child Pugh Score | | | |
| A | 4 (100%) | 0 | 4 |
| B | 13 (100%) | 0 (0%) | 13 |
| C | 15 (57.7%) | 11 (42.3%) | 26 |
| p = 0.008 | | | |
| Gradeoesophageal varices | | | |
| Oesophageal varices I | 3 (100%) | 0 (0%) | 3 (100%) |
| Oesophageal varices II | 16 (94.1%) | 1(5.9%) | 17 (100) |
| Oesophageal varices III | 11 (55%) | 9 (45%) | 20 (100%) |
| p = 0.01 | | | |

4. Discussion

Our study is limited by the mono-centric character and the small size of the sample limits us in the extrapolation of our results.

In the Congo, cirrhosis is most often diagnosed in relatively young male subjects. These results are consistent with data published by several African authors [6] [7] [8] [9], because of the young age of the general population, but also because of the high prevalence of chronic carriage of hepatitis virus B.

The oedemato-ascitic syndrome was one of the main reasons for hospitalization in our study. This finding is similar to that reported by Yao Bataix and Diarra [7] [10]. The oedematous-ascitic syndrome has been described by Pariente [11] as a frequently revealing complication of the disease.

The delay in consultation found in almost 50% of cases is probably related to our cultural context where patients first resort to churches and traditional healers in case of illness, before going to the hospital in the absence of improvement.

The delay in the consultation probably explains in part the advanced stage of the Child-Pugh stage C in more than half of the patients. This is close to the results of Bossali in Pointe-Noire in Congo [5]. However, in the studies of Yao Bataix and Karoui [7] [12], the stage at diagnosis is relatively less advanced, mainly stage B of Child Pugh.

Oesophageal varices are the most frequently found endoscopic signs, but the endoscopic stage is variously appreciated by the authors. In our work there is a high frequency of esophageal varices stage III, which corroborates the work of Diarra in Mali [10] and Moulion Tapouh in Cameroon [13] with respective frequencies of 67.23% and 82.4% of cases. On the other hand Yao Bathaix *et al.* [7] found a predominance for oesophageal varices stage II (51.32%). All of these studies confirm the advanced stage of diagnosis in African countries. In Caucasian series, however, the frequency of stage 3 varices is generally less than 30% [3].

Viral hepatitis is the most common cause of cirrhosis in our study with a predominance of hepatitis B. These results are similar to those of Sehonou in Benin [14] and Yao Bathaix in Côte d'Ivoire [7] who recovered hepatitis B respectively in 30.8% and 76.04% of cases.

Ascites was the main complication found during follow-up. This finding is clearly superior to that reported by Pariente [11], which found less than 50% of cases. This frequency could be explained in our patients by the poor therapeutic observance, the absence of therapeutic alternative in case of refractory ascites and especially the high cost of complementary examinations during the follow-up [6].

The global mortality is variously appreciated by the authors certainly because of the mode of recruitment of the patients. Our study found 25.58% during the survival period, Bossali in Pointe Noire [5] found 68.2% and Diarra in Mali [10] 82.5%.

The low mortality rate observed in our study is probably biased by the small sample size and the short duration of follow-up.

The circumstances of death were mainly hepatic encephalopathy, gastrointestinal bleeding and hepatorenal syndrome. This is related to the advanced stage of the disease and the difficulties of management related to the insufficiency of the technical platform.

The mortality is significantly correlated with the Child Pugh score and the oesophageal varices stage. In our study, Child Pugh stage C and grade III oesophageal varices were significantly correlated with high mortality ($p = 0.08$, $p = 0.01$). Our results corroborate those of René Robert [15].

Bossali *et al.* [5] found a high mortality for Child Pugh stage C ($p = 0.00034$) and the existence of complications upon admission ($p = 0.0001$). Similarly for Diarra *et al.* [10], the mortality is significantly high when the patients had a Child Pugh stage C score with 63.3% ($p = 0.008$).

5. Conclusion

Cirrhosis remains a serious condition because the diagnosis is often made at the stage of serious complications that are life-threatening. Ascites was the main reason for consultation and hospitalization. The main causes of death identified were hepatic encephalopathy and gastrointestinal bleeding. Factors associated with mortality were Child Pugh stage C and oesophageal varices III.

Conflicts of Interest

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

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