

## Circumstances for The Diagnosis of Viral Hepatitis B at The Internal Medicine Department of The Sylvanus Olympio University Hospital in Lomé (Togo)

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### ABSTRACT

**Objective:** The aim of this study was to describe the different circumstances of discovery of viral hepatitis B in the Internal Medicine Department of the Sylvanus Olympio University Hospital in Lomé.

**Method:** This is a retrospective study conducted from January 1st 2017 to December 31st 2019 at the Medical Clinic and the B Medicine of this hospital center.

**Results:** During the study period, 4078 patients were received at the Medical Clinic and Medicine B. The HBs antigen was positive in 105 patients who had never been tested, representing a seroprevalence of 2.57%. The mean age of the patients was 36.37 years (extremes: 17 and 63 years) and the sex ratio (M/F) was 2, with the age range of 20 to 39 years being the most represented (61.90%). Viral hepatitis B was acute in 5 patients (4.76%) and chronic in 100 patients (95.23%). Infection was discovered by voluntary screening in 9 patients (8.85%) and incidentally diagnosed in 34 patients (32.38%). Symptoms were found in 43 patients (40.95%) and complications in 19 patients (18.09%) including decompensated cirrhosis of the liver (N=13) and hepatocellular carcinoma (N=6). The modes of decompensation of cirrhosis were oedemato-ascitic syndrome and jaundice. Only 15 patients (15%) in the chronic phase of infection were able to achieve a viral load. The mean viral load was 36,319,839.86IU/ml with extremes ranging from 37 to 544,630,994IU/ml.

**Conclusion:** This study shows that the modes of revelation of viral hepatitis B in hospital settings in Lomé are dominated by clinical manifestations and chance discovery.

### Keywords

Viral hepatitis B, Symptoms, Fortuitous discovery, Lomé (Togo).

### Introduction

Viral hepatitis B is an infectious disease of the liver caused by the hepatitis B virus [1]. The acute infection is usually cured with the appearance of anti-HBs antibodies, which confer definitive immunity [2]. However, in 5-15% of adult subjects, the infection may progress to chronic infection, with a third of them expressing asymptomatic HBs antigen (HBsAg) with a favorable prognosis,

and the remainder developing chronic hepatitis [2], which may be complicated by cirrhosis of the liver or hepatocellular carcinoma [3]. Viral hepatitis B is a major public health concern in both industrialized and developing countries, particularly in sub-Saharan Africa where it is endemic with an estimated prevalence of 8-20% [4]. In Togo, its average prevalence is over 11% [5]. Despite the existence of a vaccine against this virus, many people in Togo are still unimmunized in rural areas and therefore contaminated by chronic carriers, especially in the viral replication phase [6]. The purpose of this work is to describe the different

circumstances of diagnosis of this infection in the field of Internal Medicine in Lomé.

## Methods

This is a retrospective study carried out in the Internal Medicine Department (Medicine B and Medical Clinic) of the CHU SO of Lomé. It was conducted over a period of three years from January 1, 2017 to December 31, 2019. Patients were included in this study, not only those aged 16 years and older in whom the diagnosis of viral hepatitis B was made in the department, but also those diagnosed in other departments of the hospital or in other health facilities and referred for better care. The diagnosis of viral hepatitis B was made on the basis of a positive HBs antigen by immunochromatography. Acute infection was reported in patients with IgM-type HBc antibodies and chronic infection in patients with total HBc antibodies. The parameters studied were seroprevalence, age, sex, circumstances of diagnosis of the infection and viral load of chronic carriers.

## Results

During our study period, 4,078 patients were seen in Medicine B and at the Medical Clinic (outpatient and inpatient). The Hbs antigen was positive in 105 patients who had never been screened, representing a seroprevalence of 2.57% of unknown viral hepatitis B. The mean age of the patients was 36.37 years (extremes: 17 and 63 years) and the sex ratio (M/F) was 2, with the age group 20 to 39 years being the most represented (61.90%).

Viral hepatitis B was acute in 5 patients (4.76%) and chronic in 100 patients (95.23%).

Infection was discovered by voluntary screening in 9 patients (8.85%). It was incidentally diagnosed in 34 patients (32.38%) (Table 1).

	Number	%
Health check-up	18	52.94
Pre-marital check-up	5	14.70
Blood Donation	5	14.70
Pregnancy check-up	3	8.82
Leg Erysipelas + Deep Venous Thrombosis	1	2.94
Severe malaria	1	2.94
Skin abscess	1	2.94
<b>Total</b>	<b>34</b>	<b>100</b>

**Table 1:** Patient Distribution by Incidental Discovery of Viral Hepatitis.

Symptoms revealed infection in 43 patients (40.95%) (Table II). Complications revealed viral hepatitis B in 19 patients (18.09%). These were decompensated liver cirrhosis (N=13) and hepatocellular carcinoma (N=6). The modes of decompensation of cirrhosis were oedemato-ascitic mode (7 cases), ascitic mode (3 cases), ictero oedemato-ascitic mode (2 cases) and icteric mode (1 case). Only 15 patients (15%) in the chronic phase of the infection were able to achieve a viral load. The mean viral load was 36,319,839.86IU/ml with extremes ranging from 37 to 544,630,994IU/ml.

	Number	%
Asthenia	17	39.53
Asthenia+Curvatures	6	13.95
Abdominal pain	5	11.62
Dyspepsia	5	11.62
Abdominal pain + Icterus	2	4.65
Abdominal pain+ Asthenia+ Fever+ Curvatures	2	4.65
Fever+Asthenia	2	4.65
Fever+Asthenia+Ictera	1	2.32
Abdominal pain + Asthenia+. Nasal discharge	1	2.32
Ictera	1	2.32
Headache	1	2.32
<b>Total</b>	<b>43</b>	<b>100</b>

**Table 2:** Distribution of patients by association or not of symptoms that revealed viral hepatitis B.

## Discussion

This retrospective study allowed us to describe the different circumstances of discovery of viral hepatitis B in hospital settings in Lomé (Togo). The results show that the newly diagnosed viral hepatitis B in our department was 2.57%. This seroprevalence is certainly underestimated since screening was not systematic in all non-vaccinated patients admitted to the department. Nevertheless, it is close to the 3.25% reported in a Nephrology-Dialysis service in Mali [7]. The average age of our patients was 36.37 years and the majority was in the 20-39 age groups. This was therefore a very young population. Our result confirms the data from another Togolese series which also reported a predominance of the 20-39 age groups [8]. A predominance of the 25-44 age groups was observed in a Beninese series [9]. In Senegal, the mean age was 33 years in the study population of Diallo et al [10]. The predominance of young adults in our communities could be explained by the fact that this social stratum is more sexually active and therefore more exposed to risk behaviors than others. With regard to gender, the male preponderance observed in our study was also noted in the study by Diallo et al [10]. On the other hand, Tété-Benissan et al. reported a predominance of females in another Togolese series among the Ogo [5]. In our study, symptomatic acute viral hepatitis B was found in only 4.76% of the patients, thus joining the French data which estimate its incidence between 4.36% and 5.05% depending on the definitions used [11]. This low incidence of symptomatic acute viral hepatitis B in our study could be explained by its clinical manifestations, which are often treated as a malarial attack or a bacterial infection by inexperienced practitioners with a favorable evolution in the majority of cases, so that only patients with altered general condition are admitted to our department.

Systematic screening for any infectious and/or flu-like syndrome on admission would be desirable even in subjects with no risk factors, since the evolution may be towards fulminant hepatitis, which can be fatal in the absence of liver transplantation, or towards chronic hepatitis. This is the case of the 95.23% of our patients who were in the chronic phase of their infection at the time of diagnosis and in whom the symptoms revealed the infection in the majority of cases (40.95%) with asthenia followed by abdominal pain as the leading cause. Indeed, asthenia remains

the main symptom in chronic viral hepatitis [12]. In the series of Diallo et al. in Senegal [10], asthenia and abdominal pain were reported in 25% and 23% of cases respectively. The frequencies of the other symptoms that revealed the infection in our study, notably aches and pains, dyspepsia, fever, jaundice, and runny nose, were reported in various ways [10-12]. Incidental discovery of infection was the second most common symptom in our series in 32.38% of cases, dominated by health check-ups (52.94%), premarital check-ups (14.70%), blood donation (14.70%) and pregnancy check-ups (8.82%). Routine screening, blood donation, and pregnancy screening were reported in 26.2%, 18.6%, and 5.3% of cases in Senegal, respectively [10]. In France, the discovery was made in the context of a systematic check-up (pregnancy, health check-up or pre-transfusion check-up) in 69% of cases. This shows the importance of an annual health check-up in general and in particular of systematic screening of non-vaccinated subjects living in highly endemic areas such as our country. In developing countries, hepatitis B is often discovered at the complication stage [10]. In our series, complications such as cirrhosis of the liver and hepatocellular carcinoma were at the origin of the discovery of the infection in 18.09%. The decompensation of cirrhosis observed in our patients is consistent with the data in the literature [10,14-17].

Cirrhosis of the liver and post-hepatitis B hepatocellular carcinoma pose a real public health problem in the world and particularly in Africa [10,14-19]. Treatment with nucleoside and nucleotide inhibitors can stabilize or even regress fibrosis lesions and reduce complications [19]. The last mode of revelation of infection in our series was voluntary screening in only 8.85% of cases. This low rate could be explained by the low awareness of our populations about this infection, resulting from the non-existence of a national program to fight this disease in our country.

## Conclusion

Infection with the hepatitis B virus, which is little known, is frequent in hospitals in Lomé and its modes of revelation are dominated by clinical manifestations and chance discovery. A strong sensitization of the Togolese population through a national program of fight against viral hepatitis B is necessary in order to allow, on the one hand, prevention by vaccination of non-immune subjects and, on the other hand, early screening for early management in order to avoid or considerably reduce complications.

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