

Evaluation and prevalence of hepatitis b among blood donors in January - June 2013 gabon

Abstract

Introduction: Infection with the hepatitis B virus (HBV) according to WHO, is a worldwide public health problem. Very few data available on the prevalence of HBs antigen in blood donors in the national context in Gabon. To better understand the epidemiological aspects necessary to develop a program to fight against viral hepatitis, including HBsAg in blood donors in Gabon.

Objective: The objective of our study was to evaluate the prevalence of HBs antigen in blood donors at the National Blood Transfusion Centre in Gabon, from two quarters of 2013.

Materials and methods: This is a cross-sectional study, descriptive, held in January 2013 to June 2013 two quarters, performed on blood donors collected in the National Blood Transfusion Centre in Libreville, Gabon. The population of our study was 10200 blood donors aged 18 to 63 years, divided into two quarters: 4653 donors in the first quarter January March 2013 and 5547 donors for the second quarter April to June 2013 Gabon. Screening for viral markers (HBsAg, anti-HIV 1 and 2, anti HCV and HTLV I and II) is using the device Abbott PRISM→ with Bio Rad reagents (France).

Result: The HBsAg remains the leading cause of destruction of the pockets with a prevalence rate of 4.17% in the 1st quarter (January-March 2013). The Q2 prevalence rate of 3.73% (April-June 2013).

Conclusion: The prevalence of HBsAg in Q1 2013 is 4.17% higher than the second quarter was 3.73%. Despite these reassuring data in Gabon, the fact remains that among the main potential transfusion-transmissible infections is hepatitis B, which continues to have the highest risk.

Keywords: Hepatitis B Blood Transfusion, Donor voluntary, Voluntary Gabon, WHO, Infection, Blood donors

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Introduction

Infection with hepatitis B virus (HBV) according to WHO is a worldwide public health problem. The HBsAg test is one that is traditionally used for screening blood donors for HVB. Very few data available on the prevalence of HBs antigen in blood donors in the national context in Gabon. To better understand the epidemiological aspects necessary to develop a program to fight against viral hepatitis, including HBsAg in blood donors in Gabon, the objective of this work was to evaluate the prevalence of HBsAg in blood donors at the National blood Transfusion Centre in Gabon, from two quarters of 2013.

Materials and methods

This is a cross-sectional study, descriptive, held in January 2013 to June 2013 two quarters, performed on blood donors collected in the National Blood Transfusion Centre in Libreville, Gabon. The selection of blood donors was reached on eligibility criteria, according to blood safety rules. After completing the questionnaire, the patient will be able to donate blood in an interview with a nurse if the patient is doing well the day of donation and is 18 years and older.¹⁻³ The population of our study was 10200 blood donors aged 18 to 63 years, divided into two quarters: 4653 donors in the first quarter January March 2013 and 5547 donors for the second quarter April to June 2013 Gabon. Being whole blood donor was included and excluded all plasma donors or platelet designated.

As part of blood safety, all blood donations routinely undergo biological qualification based on haematological tests and communicable disease screening through blood.⁴ Screening for viral markers (HBsAg, anti-HIV 1 and 2, anti HCV and HTLV I and II) is using the device Abbott PRISM→ with Bio Rad reagents (France). This device is designed to detect, by the chemiluminescence technique, the presence of Ag in a large volume of samples. When one of these tested positive virological markers, the gift is automatically unused and the donor is permanently banned from donating blood.⁵

Statistical analysis

In Gabon, the blood donation as a principle to be: voluntary and non-voluntary Familiaux-rénuméré. This allows for a voluntary free consent of the donor for blood sampling. During the interview preceding the donation, the nurse informs the future donor different biological tests to be done on his collection. The donor anonymity is respected during laboratory tests, and confidentiality is required at the Centre National de Transfusion Sanguine Libreville in Gabon. We made the analysis of data on a consolidated basis, so we do not have access at any time to the identity of donors.⁶⁻⁹ As our study is within the framework of standard blood safety objectives of the National Blood Transfusion Center of Gabon.

Therefore, we have not resorted to the approval of the ethics committee prior to the completion of our research project. However, our study is within the framework of a thesis, the Director of the

National Blood Transfusion Centre of Gabon that institution gave us justification approval of exemption that applies when the search is done with data which do not in any case a student to have access to the identity of the participants.¹⁰

Results

Features HBV among blood donors in the first quarter (January-March 2013)

HBsAg remains the leading cause of destruction of the pockets with a prevalence rate of 4.17% in the 1st quarter (January-March 2013). We recorded more positive new donors with either 190 (97.94%) with 4 or Veterans donors (2.06%). Finally, there are more family donors with 133 or 68.56% as a volunteer with 61 or 31.44% in the 1st quarter (January March 2013).

The sex ratio is $162/32 = 5.06$ (M / F) 1 infected men to women, for men, for all type of donation for the 1st quarter. It is observed that the prevalence of male family donors is higher or 5.24% compared to 3.81% or male volunteer. The bracket most affected by hepatitis B age is 23-28 years is 31.95%. Next to the latter there are those 28 to 33 years is 21.64% year followed by 18-23 years with 20.61%. Similarly, the prevalence of female family donors is 2.65% against the female volunteer is 2.43%. The presence of HBV is explained here because these age groups in Gabon are those sexually active donors but also the constituents of big donors.¹¹

Features HBV among blood donors in the second quarter (April-June 2013)

The prevalence rate of the 2nd quarter was 3.73%. We recorded more positive with 203 new donors or donors with 98.07% Veterans 4 is 1.93%. Finally, there is more donors in June 2013). The new / old ratio is 50.75 or 1 old to 50 new. Here almost all cases HBsAg consists new donors. Former 4 positive donors could be cases of seroconversion. Regarding the type of gift, just over 64.73% of HBs positive donors are family. The sex ratio is $184/23 = 8$ (M / F) 1 infected men to women, for men, for all type of donation for the 2nd Quarter (April June 2013).

This report is also due the large staff of men donors.¹² It is observed that the prevalence of male family donors is higher or 4.47% compared to 3.86% is male volunteer. Similarly, the prevalence of female family donors is higher or 2.56% against the female volunteer or 1.47%. The bracket most affected by hepatitis B age is 23-28 years is 33.81%. Next to it there are those 18 to 23 years is 17.39%, followed by 28-33 years with 15.94%.

Conclusion

First part of our study is the only blood establishment of the Province of the Estuary. This exclusivity has enabled us to have as a target the entire population of blood donors distributed throughout the territory of the said province of Gabon. Our study period of 6 months divided into two quarters (January-March 2013 and April-June 2013). This has allowed us to analyze very recent data to get a good idea of the current situation. But the fact that we have not been able to study over a longer period (at least 2 years) is one of the limitations of our study. As for the size of our study population for HBsAg, representing about 10200 blood donors aged 18 to 63 who have registered to donate blood during the various collections in Libreville CNTS during these six months.¹³⁻¹⁵

Regarding our statistical analysis, we chose to analyze the variable age in 9 groups. We could have used thinner slices for better accuracy,

but given the small number of cases, we would have had too unstable estimates. The prevalence of HBsAg in Q1 2013 is 4.17% higher than the second quarter was 3.73%. Despite these reassuring data in Gabon, the fact remains that among the main potential transfusion-transmissible infections is hepatitis B, which continues to have the highest risk.¹⁶ To better understand the epidemiology of this infection in blood donors in Gabon, it is important to estimate the risk of infection associated with transfusion including the hepatitis B has longer periods.

Acknowledgments

None.

Conflicts of interest

None.

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