Analytic Re-Evaluation After Five-Year Gap between Blood Donations: A Useful Barrier?

Suspensão e Reavaliação Analítica Após Intervalo de Cinco Anos entre Dádivas de Sangue: Uma Barreira Útil?

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Palavras-chave: Doação de Sangue; Doadores de Sangue; Fatores de Tempo

In 1994, our blood bank, one of the largest in the country, established a criterion for suspending donors after a five-year gap between donations, with the obligation to perform analytic re-evaluation prior to the resumption of donations. This was proposed following the recommendations of an article reporting that lapsed donors were more likely to have high-risk behaviours and more frequently test positive for infectious agents.[1] Although all blood donations are routinely tested for infectious agents, this criterion was expected to reduce the risk of doing so during the serological window period. We aimed to describe the results of testing suspended donors for infectious agents.

We obtained data from all donors suspended as a result of this criterion between January 1, 2017, and December 31, 2021, as well as from subsequent donations. Information regarding lack of adherence to donation and serology of infectious agents (initial and subsequent) was obtained. The information used was from pre-existing and non-identifiable data therefore informed consent and ethics review board was waived.

During the study period, our blood bank had 93 594 donations of whole blood with 15 739 suspensions (for any reason). As a result of this specific criterion, 770 donors were suspended. Out of 749 donors who underwent testing for infectious agents, 737 results (98.4%) were negative and 12 (1.6%) were reactive (Table 1). Only three of them had clinical relevance – case 2 with infection by hepatitis B virus and cases 3 and 5 with a diagnosis of syphilis. All of them, if this deferral criterion had not been in use, would have been detected in the routine tests performed on all donations. No cases of seroconversion in post-suspension donation were detected.

On the other hand, this suspension criterion led to a total of 328 (42.6%) donors who did not donate blood ever again. This includes 21 donors who did not accept the initial serological study and 307 donors who underwent the serological study. They never returned to the blood bank for the resumption of donations, which may constitute an important handicap for the adherence rate.

The suspension criterion analysed in this sample did not apparently lead to increased transfusion safety. Since there were no cases of seroconversion, all reactive results would

Table 1 – Description of the reactive results of the serological studies

Case number	Results
#1	Reactive result in serological study of hepatitis C virus.
	No clinical significance. Disease not confirmed.
#2	Infection by hepatitis B virus.
	Clinical records consistent with diagnosis known for 24 years.
#3	Diagnosis of syphilis.
#4	Reactive result in serological study of human T-cell lymphotropic viruses.
	No clinical significance. Disease not confirmed.
#5	Diagnosis of syphilis.
#6	Reactive result in serological study of hepatitis B virus.
	No clinical significance. Disease not confirmed.
#7	Reactive result in serological study of hepatitis C virus.
	No clinical significance. Disease not confirmed.
#8	Reactive result in serological study of hepatitis C virus.
	No clinical significance. Disease not confirmed.
#9	Reactive result in serological study of hepatitis B virus.
	No clinical significance. Disease not confirmed.
#10	Reactive result in serological study of hepatitis B virus.
	No clinical significance. Disease not confirmed.
#11	Reactive result in serological study of hepatitis B virus.
	No clinical significance. Disease not confirmed.
#12	Reactive result in serological study of human T-cell lymphotropic viruses.
	No clinical significance. Disease not confirmed.

have also been detected in the routine study. Additionally, this was an important barrier to the adherence rate. While this criterion was defined based on published evidence, we consider that currently, for our blood bank, there is no benefit in maintaining it. These results highlight the importance of regularly reviewing suspension criteria.

AUTHOR CONTRIBUTIONS

IM: Data collection, drafting and critical review of the manuscript.

ST, RQ: Drafting and critical review of the manuscript.

CN, CK: Critical review of the manuscript.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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