

# False positivity of the surface antigen of the Hepatitis B virus (HBsAg) after vaccination. Letter to the editor.

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## Abstract

**Introduction:** The population on chronic hemodialysis has a greater exposure and risk to the hepatitis B virus, which is why immunoprophylaxis using the double dose scheme (40mcg) on days 0-30-60-180, with the application of this regimen for a second extra time in nonresponders, It is common practice in this population.

**Clinical case:** This is a 67-year-old male patient of Afro-Ecuadorian ethnicity who started hemodialysis (HD) in August 2023 for chronic kidney disease (CKD) secondary to diabetic nephropathy. When starting HD, he had negative serology for hepatitis and negativity for HBsAg. For this reason, he received his first vaccination dose on November 29, 2023, and on December 15, he had HBsAg positivity with values of 4.14 S/CO ( $\geq 1$  positive), with Ac-ANTI-HBSAG levels  $< 2$  IU/L.

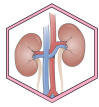
**Management:** Given the findings, it was decided to isolate the patient with control of liver function, which is normal, and a new test in 15 days of HBsAg levels, which were subsequently negative.

**Conclusion:** With this case, we want to remember the existence of false positivization of HBsAg after vaccination in hemodialysis patients, a situation associated with the vaccine being composed of live attenuated viruses or recombinant particles of surface proteins.

## Keywords:

False positivity, Hepatitis B surface antigen, Vaccination, Case report.

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The population on chronic hemodialysis has greater exposure and risk to the hepatitis B virus, which is why immunoprophylaxis using the double dose scheme (40 mcg) on days 0-30-60-180, with the application of this regimen for the second time extra time in nonresponders, is common practice in this population [1- 2].

We present the case of a patient on chronic hemodialysis who, after receiving his first dose of the hepatitis B vaccine, tested positive for the surface antigen of the hepatitis B virus (HBsAg).

This is a 67-year-old male patient of Afro-Ecuadorian ethnicity who started hemodialysis (HD) in August 2023 for chronic kidney disease (CKD) secondary to diabetic nephropathy. When starting HD, he had negative serology for hepatitis and negative serology for HBsAg. For this reason, he received his first vaccination dose on November 29, 2023, and on December 15, he was HBsAg positive, with values of 4.14 S/CO ( $\geq 1$  positive) and Ac-ANTI-HBSAG levels  $< 2$  IU/L. Given these findings, it was decided to isolate a patient with normal liver function and new control of HBsAg levels for 15 days, which were subsequently negative.

With this case, we want to remember the existence of false positivity of HBsAg after vaccination in hemodialysis patients [3-4], a relatively common situation when the vaccine is composed of live attenuated viruses or recombinant particles of surface proteins [5], requiring a control 2-3 weeks after the vaccine. The isolation of staff and patients is unnecessary because it is a normal immunological response to the vaccination process.

## Abbreviations

HD: hemodialysis.  
CKD: chronic kidney disease.

## Supplementary information

The supplementary materials have not been provided.

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Does not apply.

## Contributions of authors

Juan Cristobal Santacruz Mancheno: Conceptualization, Data curation, Formal analysis, Research, Methodology, Resources.  
Layla Báez: Conceptualization, Data curation, Formal analysis.  
Paulo Reinoso: Conceptualization, Data curation, Formal analysis.  
Paola Arévalo: Conceptualization, Data curation, Formal analysis, Research.  
Nairi Sucre: Conceptualization, Data curation, Formal analysis, Research.  
Gabriela Santacruz: Conceptualization, Data curation, Formal analysis, Research.  
Cristobal Santacruz Tipanta: Project administration, Resources, Software, Writing – original draft.

## Financing

The authors self-financed the study. The studies and treatments were prescriptions from the Hemodialysis Unit and did not constitute costs for the patient.

## Availability of data or materials

The datasets generated and analyzed during the current study are not publicly available but can be shared with an academic request.

## Statements

### Ethics committee approval and consent to participate

Clinical cases are not needed. Consent for participation was obtained from the patient.

### Consent for publication

Consent for publication was obtained from the patient.

### Conflicts of interest

The authors declare no conflicts of interest.

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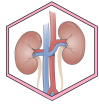
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