



HAL
open science

Patients With Isolated Hepatitis B Core Antibody: Has the Time Come to Vaccinate?

Lionel Piroth, Odile Launay, Patrick Mialhes, Fabrice Carrat, David Rey

► To cite this version:

Lionel Piroth, Odile Launay, Patrick Mialhes, Fabrice Carrat, David Rey. Patients With Isolated Hepatitis B Core Antibody: Has the Time Come to Vaccinate?. *Clinical Infectious Diseases*, 2017, 66 (2), pp.317-318. 10.1093/cid/cix822 . hal-03776218

HAL Id: hal-03776218

<https://hal.sorbonne-universite.fr/hal-03776218>

Submitted on 13 Sep 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Isolated anti-HBc serological profile: has the time come to vaccinate?

Lionel Piroth¹, Odile Launay², Patrick Mialhes³, Fabrice Carrat^{4,5,6}, David Rey⁷

¹ Département d'infectiologie, CHU de Dijon; INSERM CIC 1432, Université de Bourgogne, 21079 Dijon Cedex, France

² Université Paris Descartes, Sorbonne Paris Cité; INSERM, CIC 1417 ; F-CRIN, Innovative clinical research network in vaccinology (I-REIVAC); Assistance Publique-Hôpitaux de Paris (AP-HP), Hôpital Cochin, CIC Cochin Pasteur, 75014 Paris, France

³ Centre de Recherche sur le Cancer de Lyon, Equipes 15 et 16, INSERM, Unité 1052, CNRS, UMR 5286, Lyon, France; Service des Maladies Infectieuses et Tropicales, Hôpital de la Croix-Rousse, Hospices Civils de Lyon, Lyon, France

⁴ INSERM, UMR S 1136, Institut Pierre Louis d'Epidémiologie et de Santé Publique, 75012 Paris, France

⁵ Sorbonne Universités, UPMC Univ Paris 06, UMR S 1136, Institut Pierre Louis d'Epidémiologie et de Santé Publique, 75012 Paris, France

⁶ Public Health Unit, Saint-Antoine Hospital, AP-HP, 75012 Paris, France

⁷ Center for HIV infection care, Hôpitaux Universitaires, 67091 Strasbourg Cedex, France

Word count: 515

Corresponding author:

Pr Lionel PIROTH, MD, PhD.

Service de Maladies Infectieuses et Tropicales, CHU Dijon,

14 rue Gaffarel

21079 DIJON Cedex,

FRANCE.

Tel: + 33 3 80 29 33 05;

Fax: + 33 3 80 29 36 38

Email: lionel.piroth@chu-dijon.fr

Dear Editor,

The proportion of individuals with an isolated anti-HBc (IAHBc) serological profile ranges from 1% to 32% ¹, frequently observed in patients with chronic hepatitis C ² or HIV infection ³. The partly unsolved question is indeed how to manage these patients. Indeed, the risk of HBV reactivation can be globally and approximately estimated at between 2.0% and 3.9% ^{2,3}. There is increasing and recent evidence of such a risk of (re)infection - or more likely reactivation – particularly in some patients, such as those on immunosuppressive therapy (e.g. rituximab, anti-TNF ¹, or more recently ibrutinib or pomalidomide), those with HIV infection and/or experiencing withdrawal from drugs with anti-HBV activity, or those treated with new direct anti-HCV agents ⁴.

Though there is rather a consensus to offer treatment to IAHBc patients with positive HBV DNA, whether preventive measures should be adopted in those without positive HBV DNA – if any – is still a matter of debate. Some physicians advocate the use of anti-HBV drugs, in particular in patients waiting to be treated with immunosuppressive drugs ^{5,6} or in those on HCV therapy with direct antiviral agents ⁷. However, the duration of such a specific HBV therapy and its benefit/risk balance are still unclear, considering the long-term potential safety issues and the residual risk – albeit lower - of reactivation/(re)infection (from 0.14 to 1.1/100 person-years in HIV-infected patients ⁸).

It thus seems relevant to strongly promote and systematically offer HBV vaccination to these patients (**figure**), as recently recommended in the US Public Health Service guidelines for management of HIV infected persons. An anamnestic anti-HBs response to one dose of HBV vaccine (recall) supports the presence of an immune memory to HBV with resolved HBV infection ¹, and suggests that there is no need for further HBV vaccination or therapy. By contrast, the lack of an anamnestic response should lead to full vaccination in these patients. Reinforced (double-dose) schemes have been assessed in patients with this IAHBc serological profile and impaired immunity (such as cirrhosis ⁹ or HIV co-infection ¹⁰), and have shown satisfactory response rates (up to 89%) and safety profiles. This vaccination strategy makes sense since most patients at risk of reactivation/(re)infection are likely to suffer from long-term immunodepression and/or liver disease.

On the other hand, another strategy, which has never been clearly assessed, could be first to see whether patients with an IAHBc profile experience an anamnestic response following a single dose of HBV vaccine, and then to assess HBV DNA in the non-anamnestic responders, to distinguish between those who need anti-HBV therapy (because of positive HBV DNA), and those who need full vaccination.

In conclusion, even though the clinical benefit of the above strategy associated with the development of immune protection in such patients has yet to be assessed, recommendations and guidelines should be upgraded and include offering HBV vaccination to these patients, at least to those with virological or drug-related impaired immunity, and to those suffering from liver diseases and/or HCV infected. The best schedule could be a recall dose, followed by a full scheme (often reinforced) in the absence of an anamnestic response.

REFERENCES

1. Wang Q, Klenerman P, Semmo N. Significance of anti-HBc alone serological status in clinical practice. *Lancet Gastroenterol Hepatol* 2017; **2**: 123–34.
2. French AL, Lin MY, Evans CT, et al. Long-term serologic follow-up of isolated hepatitis B core antibody in HIV-infected and HIV-uninfected women. *Clin Infect Dis* 2009; **49**(1): 148-54.
3. Sheng WH, Kao JH, Chen PJ, et al. Evolution of hepatitis B serological markers in HIV-infected patients receiving highly active antiretroviral therapy. *Clin Infect Dis* 2007; **45**(9): 1221-9.
4. Wang C, Ji D, Chen J, et al. Hepatitis due to Reactivation of Hepatitis B Virus in Endemic Areas Among Patients With Hepatitis C Treated With Direct-acting Antiviral Agents. *Clin Gastroenterol Hepatol* 2017; **15**(1): 132-6.
5. Chen GD, Gu JL, Qiu J, Chen LZ. Outcomes and risk factors for hepatitis B virus (HBV) reactivation after kidney transplantation in occult HBV carriers. *Transpl Infect Dis* 2013; **15**(3): 300-5.
6. Merli M, Rattotti S, Gotti M, Arcaini L. Antiviral therapies for managing viral hepatitis in lymphoma patients. *Expert Opin Pharmacother* 2017.
7. Ozaras R, Mete B, Tabak F. Occult Hepatitis B and Risk of Reactivation After Hepatitis C Treatment With Direct-Acting Antivirals. *Clin Gastroenterol Hepatol* 2016.
8. Heuft MM, Houba SM, van den Berk GE, et al. Protective effect of hepatitis B virus-active antiretroviral therapy against primary hepatitis B virus infection. *AIDS* 2014; **28**(7): 999-1005.
9. Gutierrez Domingo I, Pascasio Acevedo JM, Alcalde Vargas A, et al. Response to vaccination against hepatitis B virus with a schedule of four 40-mug doses in cirrhotic patients evaluated for liver transplantation: factors associated with a response. *Transplantation proceedings* 2012; **44**(6): 1499-501.
10. Piroth L, Launay O, Michel ML, et al. Vaccination Against Hepatitis B Virus (HBV) in HIV-1-Infected Patients With Isolated Anti-HBV Core Antibody: The ANRS HB EP03 CISOVAC Prospective Study. *J Infect Dis* 2016; **213**(11): 1735-42.

Figure

Suggested strategy in patients with an IAHBc serological profile and impaired immunity

