# HBV ECHO Case Recommendations

Session 5: September 26, 2022

**Case Recommendations and Considerations: 43 y/o Marshallese man with isolated HBVcAb positive; 55 y/o Chuukese woman with HBVcAb and HBVsAb positive**

| CATEGORY | RECOMMENDATIONS | Relevant Presentation Question or Concern | REFERENCES/ RESOURCE LINKS |
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| History | • | | |
| Physical Exam | • | | |
| Diagnostic evaluation | • Send patient for a Fibroscan to determine extent of fibrosis and steatosis as a baseline. In addition to known hepatitis B exposure, family history, co-morbid conditions, this will help us determine the need for follow up and screening for HCC | • Both of these patients have risk factors for metabolic syndrome in addition to Hepatitis B exposure | |
| Medication Therapy & Adjustments | • | | |
| Vaccination | 1. Non-responders should get a second set of vaccinations with the adjuvanted HBV vaccine (the adjuvanted feature increases the vaccine's immunogenicity). Alternatively, using the combination vaccine of HAV plus HBV (brand name Twinrix) also increases the immunogenicity of the HBV vaccine as well. If there is still no antibody response after a second series, patient should be informed and noted as a "non-responder" in the record. In high risk environments (e.g., healthcare workers) when an exposure occurs, hepatitis B immunoglobulins (HBIG) may be given as secondary prevention. | 1. 5-10% of people are non-responders to the HBV vaccine<br>2. Which population should be tested for antibody titers after initial vaccination?<br>3. Should we test patients 4-6 weeks after vaccination to assess Ab response? | |

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| | 2. In high risk populations for whom confirmed immunity is required, you can test for Ab response after vaccination. Wait 4-6 weeks after last dose of the series to test. Testing too soon can result in misleading measurements.<br>3. Without repeated antigen stimulus, the Ab titers tend to decline 10-15 years after initial vaccination. If a person is exposed or has been vaccinated previously but has negative Surface Ab, you can challenge the immune response by administering 1 "booster" shot of vaccine (instead of the whole course) to see if Ab titers respond after an appropriate interval. If they have a memory T cell response then Ab titers should become positive. | | |
| Social Determinants of Health (SDOH) | 1. Patients from the Compact of Free Association countries (COFA) are not screened the way other immigrants are. COFA patients enter the US on their own countries passports and are not tested for Hepatitis B or Tuberculosis prior to immigration. Immigrants (and others) with a history of hepatitis vaccination still need confirmation of infection status because vaccination of someone who is already chronically infected does not provide immunity. Immigrants may be vaccinated against Hepatitis B but are not necessarily screened for prior or current infection. When in doubt test. | 1. Note on immigrants from COFA-associated areas | |
| Behavioral Health | | | |

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| Screening | 1. It is a good practice to review imaging studies yourself, if possible. Radiologists typically welcome the opportunity to talk with providers about clinical details and to review studies together. If there is doubt, call the reading radiologist, provide more clinical information and ask your concerns or questions.<br>2. In this case with an inconclusive U/S, it could be OK to wait to order a f/u MRI. Continue to develop evidence concerning advanced liver disease, e.g. Fibroscan, further specific personal and family histories and evaluation over time.<br>3. Image-reading tutorials can be found on Youtube (how to read US, CT, etc.). It is good to know your radiologist readers, as well. Some are more conservative and others may be more committal. Feel free to call your radiologist to discuss the case if there is uncertainty.<br>4. If a radiology reading comes back as "indeterminate, consider further imaging," consider the pretest probability, and if further imaging is truly necessary. Consider your clinical judgement and the pretest probability before testing and in interpreting results. If you really think someone has cancer (or heart disease or other condition) and test results come back negative, consider doing additional tests to confirm (to eliminate a false-negative). Likewise, if someone clinically has a really low chance of some condition (like a young, anxious person with chest pain and no risk factors) be suspicious of a positive test result that may be a potential false-positive. | 1. For patients with HBcAb+ and HBSAb+, how aggressive should I be with regularly imaging these patients? Do you recommend I order the MRI for just repeat US in 6-12 months?<br>2. Q6-12 months US can be challenging. In patients where this may not be possible, do you recommend monitoring with labs regularly (LFTs or AFP) instead?<br>3. Some radiologists are more conservative in their reads than others<br>4. Attempt reading images on your own if possible<br>5. Typical screening for all patients<br>6. Should we follow up every 6 months US and Viral load for HBsAb and HBcAb positive? | |

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| | 5. Some HCC are not AFP-producing (anecdotally, 40% per Dr Roytman). So screening with AFP alone is not sufficient and should be performed in conjunction with imaging. If obtaining imaging is challenging, then following AFP alone is better than nothing, while acknowledging its limitations in sensitivity for detecting liver cancer.<br>6. Test all patients for "A, B, Cs" (Hepatitis A, B, and C)<br>7. Isolated Core vs. Core & Surface Ab: the difference is how likely are they to have reactivation when immunosuppressed. If you have Surface Ab, some argue you may not need to worry about reactivation when immunosuppressed, whereas with an isolated core Ab there is higher risk of reactivation. There are no guidelines for surveillance after a Core & Surface or isolated Core Ab positive. Consider the population you are treating (risk factors: age, family history of liver Ca, metabolic risk, EtOH, smoking or from endemic area). Some patients were known to have isolated Core Ab but then develop HCC years later without other evidence of liver disease. In Hawaii population, consider repeating imaging every 1-2 years in either of these cases. Dr Tsai: if surface Ab and core Ab both positive, check the DNA once at the beginning and then yearly US, while following LFTs periodically. Another approach (from an insurance standpoint) is to recognize other indications for doing a Fibroscan (e.g., risk for NAFLD) to also screen for complication of HBV. If patient has isolated Core Ab positive, there is | | Review paper on the subject of increased HCC risk in patients with either isolated HBcAb(+) or both HBsAb and HBcAb (+):<br><br>https://www.hawaiilearning.org/wp-content/uploads/2022/09/Association-between-anti-HBc-positivity-and-HCC-in-patients-with-chronic-liver-disease-a-metaanalysis.pdf |

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| | increased risk of liver cancer (also consider other risk factors) | | |
| Risk Reduction | • | | |
| Other | 1. Reassure patient that he/she is fine for now, but inform them that if immunosuppression were to occur, then they need to inform their provider that they have a “sleeping virus” so that the provider may act accordingly. | 1. How do you educate patients who are HBcAb/HBsAb positive? | https://www.hepfreehawaii.org/downloads |

***PLEASE NOTE that case consultations and recommendations for the HBV ECHO do not create or otherwise establish a provider-patient relationship between any participant, Hawaii Learning Groups, and/or any other clinician on the HBV ECHO faculty.***