UW TASP
tele-antimicrobial stewardship program

Hospital: Klickitat

Presenter: Paula Riley

Question/case summary:

I would love your input with an Employee Health scenario. Employee received Hep B series on 2/15/11, 3/22/11, and 8/17/11. Lab results dated 7/27/18 showed no immunity to Hep B so I gave him a booster on 8/7/18, which resulted in continued non-immunity. Gave him shots on 9/12/18 and 2/14/19 to complete a 2nd series of Hep B vaccinations. Lab results dated 3/15/19 showed immunity of 80.9, so we thought we had finally converted him. However!! Employee is also an EMT outside of our hospital, and during that line of work he had a needlestick exposure on 7/23/19. Lab results dated 7/25/19 no show no immunity. Clearly this employee's system WANTS to be a non-converter, as his immunity didn't even last 5 months. Given that the employee is an ED Tech and an EMT, it is critical that he has immunity to Hep B. What do you advise that I do in this situation? It was unfortunate for him to get a needlestick, of course, but I am so gla! d that we were able to identify that he no longer has immunity. Do I give him a booster every quarter?? Or what is the best approach to this situation? He is very, very concerned about this situation as well, and we are both thankful for your input.

UW TASP Recommendation

Excellent question! We had a robust discussion about this during the session – please see below in BOLD for a correction to the recommendation made during the session.

Key points:

- Healthcare workers should be offered the hepatitis B vaccine series if there is any risk of blood-body fluid exposures (BBE)
- Employee health can use Heplisav-B (2 doses), Engerix-B or Recombivax HB (both are 3 dose regimens)
- HCWs with a risk of BBE should be tested for immunity 1-2 months after completing the series. Immunity is demonstrated with ≥10 mIU/mL hepatitis B surface antibody
- If a HCW does not mount a reaction, a second series should be completed and re-test serology after 1-2 months
- If still negative, a full hepatitis B panel should be obtained to determine if the person is infected with hepatitis B (if chronically infected, the person will be persistently HBsAb negative)
- If not infected and still sero-negative, the HCW should be considered non-immune if exposed (for example, if exposed, HBIg would need to be given)
- **Now, specifically to your question: We reviewed the guidelines and available recommendations and would like to correct the recommendation made during this morning's session. If a HCW ever has a HBsAb ≥10 mIU/mL, that person can be considered immune, EVEN if a subsequent serology is negative.**

Here is the language from Immunize.org regarding this question:

Should a healthcare professional who performs invasive procedures and who once had a positive anti-HBs result be revaccinated if the anti-HBs titer is rechecked and is less than 10 mIU/mL?
No. Immunocompetent people known to have responded to hepatitis B vaccination in the past do not require additional passive or active immunization. Postvaccination testing should be done 1–2 months after the original vaccine series is completed. In this scenario, the initial postvaccination testing showed that the healthcare professional was protected. Substantial evidence suggests that adults who respond to a hepatitis B vaccine series (anti-HBs of at least 10 mIU/ mL) are protected from chronic HBV infection for at least 30 years, even if there is no detectable anti-HBs currently. Only immunocompromised people (for example, dialysis patients, some HIV-positive people) need to have anti-HBs testing performed periodically. Booster doses of vaccine to maintain their protective anti-HBs concentrations to at least 10 mIU/mL are recommended for dialysis patients and may be given to some HIV-positive patients.

No boosters or additional testing is recommended for these individuals. Hepatitis B immunization generates a potent anamnestic (memory) immune response, so if ever immune by serological testing, data supports persistent immunity that will be triggered if there is an exposure.

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