A Rare Case of Reactivated Hepatitis B in the Setting of Hepatitis B Surface Antibody Positivity

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Purpose
To highlight a unique presentation of HBsAg reactivation in the setting of resolved infection in an immuno-compromised host while still having a positive antiHBsAb.

Methods
A 57 year old male presented with abnormal liver chemistries in the setting of routine lab testing for his renal transplant follow up. He underwent post cadaveric renal transplant in 2011 secondary to polycystic kidney disease. Of note, he was involved in a recent motor vehicle accident about a month prior, and had since been taking about 1.5g of acetaminophen for pain control. He denied any jaundice, diarrhea, abdominal pain, fevers, or nausea/vomiting.

Results
He was found to have an elevated total bilirubin (3.7mg/dL on admission, which peaked at 4.7 during his hospital stay), alkaline phosphatase (160 IU/L on admission), aspartate aminotransferase (325 IU/L on admission, peaking at 364), and alanine aminotransferase (486 IU/L on admission, peaking at 491). Of note, he did have a history of prior hepatitis B infection, with documented negative HBsAg and positive antiHBsAb in 2011. He was initiated on NAC therapy despite a negative acetaminophen level. On repeat serologic testing, it was discovered that he now had a positive HBsAg, which was solidified by confirmation testing, as well as a positive antiHBsAb. His HBcoreAb-IgG was positive while his HBcoreAb-IgM was negative. HAV and HCV testing were both negative. The patient also had an abdominal ultrasound, which revealed cysts of varying sizes infiltration throughout the liver, mild hepatomegaly, and normal flow within the portal and hepatic veins with no intrahepatic ductal dilatation. These were all consistent with an ultrasound done back in about 7 years ago and felt to be consistent with his polycystic kidney disease. Coincidentally, his FK506 level at this admission reached the highest peak it had in almost 9 months, and his tacrolimus dosage was reduced prior to discharge. The patient’s other immunosuppressant medications at the time were methylprednisolone and mycophenolate mofetil. The patient was ultimately diagnosed with reactivated latent hepatitis B and Entecavir was initiated prior to discharge. He has not yet returned to our clinic for follow up. The patient has not yet returned to our clinic for follow up.

Conclusion
Literature regarding reactivation of HBV has demonstrated a variety of cases where a positive HBsAg was noted in the setting of a previously positive antiHBsAb. This has been reported in a variety of immunocompromised hosts, including cases of solid organ transplant, AIDS patients, and those patients undergoing various chemotherapeutic regimens, such as rituximab. Our case occurred in a similar setting; however, it was unique, because of the re-emergence of HBVsAg positivity despite the presence of a positive antiHBsAb. It is generally accepted that a patient cannot demonstrate HBVsAg positivity, and that the infection is considered cleared with appearance of HBVsAb. It is difficult to assess the prevalence of such cases, because no other reports have been published at this time.

References: