



A Rare Case of Non-Small Cell Lung Cancer Causing False Positive Hepatitis B Surface Antigen



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CASE PRESENTATION

HISTORY

- A 74-year-old African American male with medical comorbidities of stage IV non-small cell lung cancer (NSCLC) presented for acute kidney injury and proteinuria.
- Workup revealed a positive HBsAg.
- HBsAg was previously negative two years prior.
- Liver function tests were normal. Physical examination did not reveal chronic liver disease manifestations.

SEROLOGY

Labs	Serology
HBsAg	Positive
HBsAb	Positive (quantitative value of 0.53)
HBcAb total	Negative
HBc IgM	Negative
HBV DNA	Negative
HBcAb	Negative
HBeAg	Negative
HBeAb	Negative

CLINICAL COURSE

- The HBsAg was not confirmed as a true positive after repeat testing with an antibody neutralizing procedure involving a human antibody to HbsAg.

DISCUSSION

- There was high suspicion that patient had false positive HBsAg. The patient's serological profile did not fit acute or chronic hepatitis B.
- The patient had no evidence of acute hepatitis B with negative HBc IgM, HBV DNA and no evidence of chronic hepatitis B with HBcAb total being negative.
- A positive HBsAb is not seen in acute and chronic hepatitis B
- Transient HBsAg has been seen in patients for up to 2 weeks after HBV vaccination, however, our patient had not been vaccinated recently.

- The most common cause is the presence of heterophile antibodies. These naturally occurring human antibodies can bind to a variety of chemical structures including animal antibodies seen in immunochemistry assays.
- They can be neutralized by specific inactivating binders.
- Other viral infections such as Epstein-Barr Virus (EBV), transfusions, or systemic disease can cause false positives.
- A likely suspect was the patient's NSCLC causing a paraneoplastic syndrome which would be the first instance of such in the literature.
- There have been cases of parathyroid adenoma and basal cell carcinoma causing false positivity.
- Patients with false-positive HBsAg need further workup to prevent misdiagnosis and potentially harmful management.
- Accurate interpretation of laboratory tests is imperative in diagnosing hepatitis B