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Case Report

Deadly Face Of Vertical And Familial Transmission In HBV.

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Abstract

Introduction: Hepatitis B virus (HBV) impacts large number of populations worldwide and has both hepatic and extrahepatic manifestations. It can present as acute hepatitis, chronic hepatitis, cirrhosis and hepatocellular carcinoma (HCC). The available data provide evidence that HBV infection is associated with the risk of developing HCC with or without an underlying liver cirrhosis, due to various direct and indirect mechanisms promoting hepatocarcinogenesis.

Case Report: We report a fourty two-year-old male, not a known case of any chronic illness, was totally asymptomatic and his brother recently died due to hepatitis B related chronic liver disease and hepatocellular carcinoma. Thus, family screening was advised. They were total six brother & sister who were living, along with their mother and father. Out of these eight all six brother and sisters & mother were found to be hepatitis B positive and only father was hepatitis B negative who was given whole course of HBV vaccination. On evaluation, our above patient was also having hepatitis B related chronic liver disease with H.C.C. He was out of liver transplant criterion, hence was started on antiviral and sorafenib treatment. One more brother was having significant fibrosis with high viral load and raised transaminases, thus was started on antiviral treatment. The rest of family members were inactive carriers but in view of strong family history of HBV related HCC were started on antiviral treatment and regular follow up. Moreover, all their spouses and children were screened for viral screen and none was found to be HbsAg positive and everyone was given full course of HBV vaccine.

Conclusion: Hepatitis B has many presentations varying from inactive carrier stage in majority to cirrhosis and H.C.C. The family screening is must, as it can help in timely detection of not only HBV infection but also its complication like H.C.C. The non-infected family members should all be mandatory vaccinated with HBV.

Keywords: Chronic hepatitis B, Hepatocellular carcinoma, vertical transmission, Ascites, Portal Vein thrombosis.

INTRODUCTION

HBV infection has become major health problem in developing country like India which has many hotspots like Haryana, Punjab, Uttar Pradesh, Uttarakhand, North eastern states and Hepatitis B Surface Antigen (HbsAg) positivity varies between 2–4.7% [1,2]. In India, approximately 40 million people are chronically infected with Hepatitis B [3]. The major routes of transmission of Hepatitis B include vertical transmission, unsafe needle & sexual practices, repeated exposure to blood & blood products like who receive repeated transfusion of blood, are on maintenance haemodialysis, intravenous drug abusers, males having sex with male, female sex workers, sexual partners & care takers of HBV patient and prisoners [4]. The molecular profile of HBV-HCC is extensively and continuously under study, and it is the result of altered molecular pathways, which modify the microenvironment and lead to DNA damage. HBV produces the protein HBx, which has a central role in the oncogenetic process. Proper management of the underlying HBV-related liver disease is fundamental, including HCC surveillance, viral suppression, and application of adequate predictive models. When HBV-HCC occurs, liver function and HCC characteristics guide the physician among treatment strategies [5].

CASE REPORT

We report a fourty two-year-old male, not a known case of any chronic illness, was totally asymptomatic and his brother recently died due to hepatitis B related chronic liver disease and hepatocellular carcinoma. Thus, family screening was advised. They were total six brother & sister who were living, along with their mother and father. Out of these eight all six brother and sisters & mother were found to be hepatitis

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B positive and only father was hepatitis B negative who was given whole course of HBV vaccination. On evaluation, our above patient was also having hepatitis B related chronic liver disease with H.C.C. There was no history of fever, weight loss, haematemesis, melena, altered sleep pattern or behaviour, bladder or bowel symptoms, breathlessness on exertion or rest. On biochemical evaluation he had pancytopenia on complete hemogram, liver function test was deranged i.e. there was low albumin level, mild hyperbilirubinemia, raised transaminitis with reversal of ratio of AST being more than ALT and increased INR. The lipid profile showed lower values of all parameters including total cholesterol, triglycerides, LDL, VLDL and HDL levels. His renal function test, serum electrolytes and blood sugar level were in normal range. The viral screen was positive for HbsAg and anti HCV antibody, anti-HIV antibody, Serum IgM HAV & HEV antibody test were negative, Alpha feto protein level (AFP) was significantly raised to 2360 I.U.and HBV DNA quantitative was three lakh I.U/ml. His ultrasonogram showed altered echotexture of liver with two suspicious lesions in right lobe of liver without any ascites and portal vein thrombosis. Triple phase Computed tomography scan confirmed ultrasonography findings and suspicious lesions showed enhancement on arterial phase and wash out on venous and portal phase. The two lesions were in segment 8 and segment 2 with dimensions of 5.2 X 5.9 cm and 2.2 x 1.9 cm respectively. He was out of liver transplant criterion, hence was started on antiviral and sorafenib treatment. One more brother was having significant fibrosis with high viral load and raised transaminases, thus was started on antiviral treatment. The rest of family members were inactive carriers but in view of strong family history of HBV related HCC were started on antiviral treatment and regular follow up. Moreover, all their spouses and children were screened for viral screen and none was found to be HbsAg positive and everyone was given full course of HBV vaccine.

Figure 1. Triple Phase CECT Scan abdomen showing enhancement of two lesions (red and yellow circle) in arterial phase.

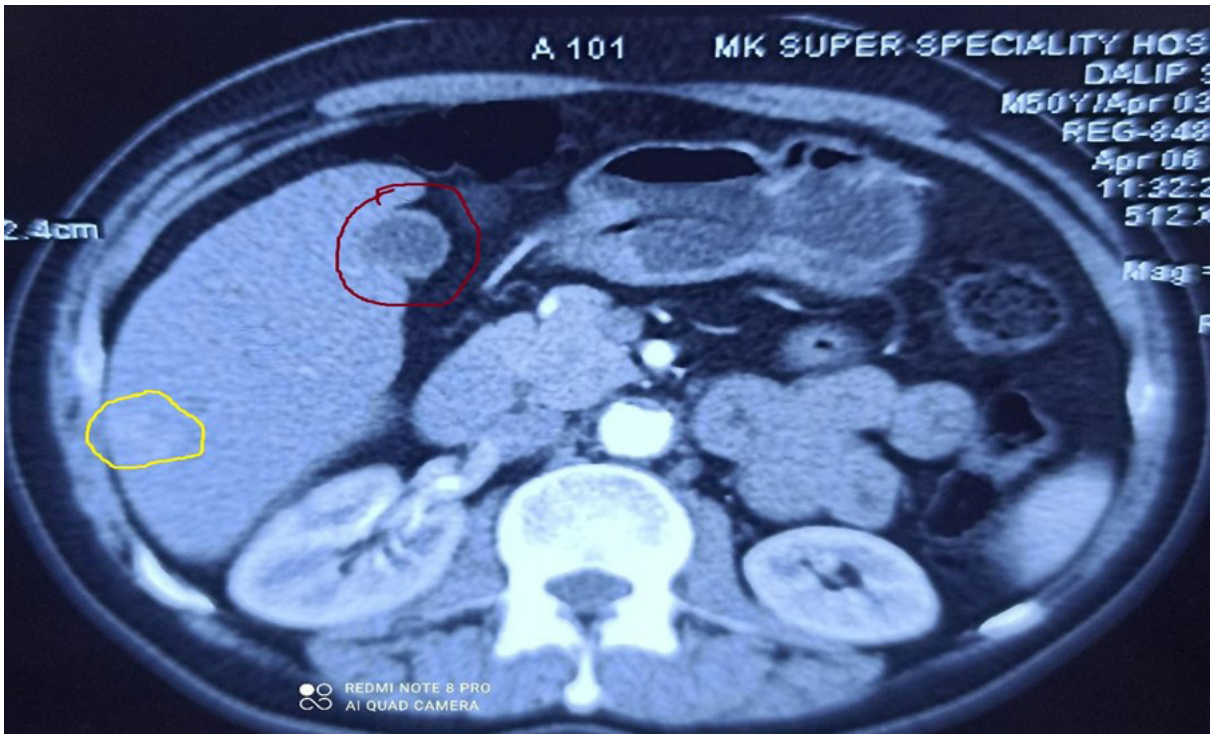


Figure 2. Triple Phase CECT Scan abdomen showing early wash off of two lesions in portal phase (red and yellow circle)

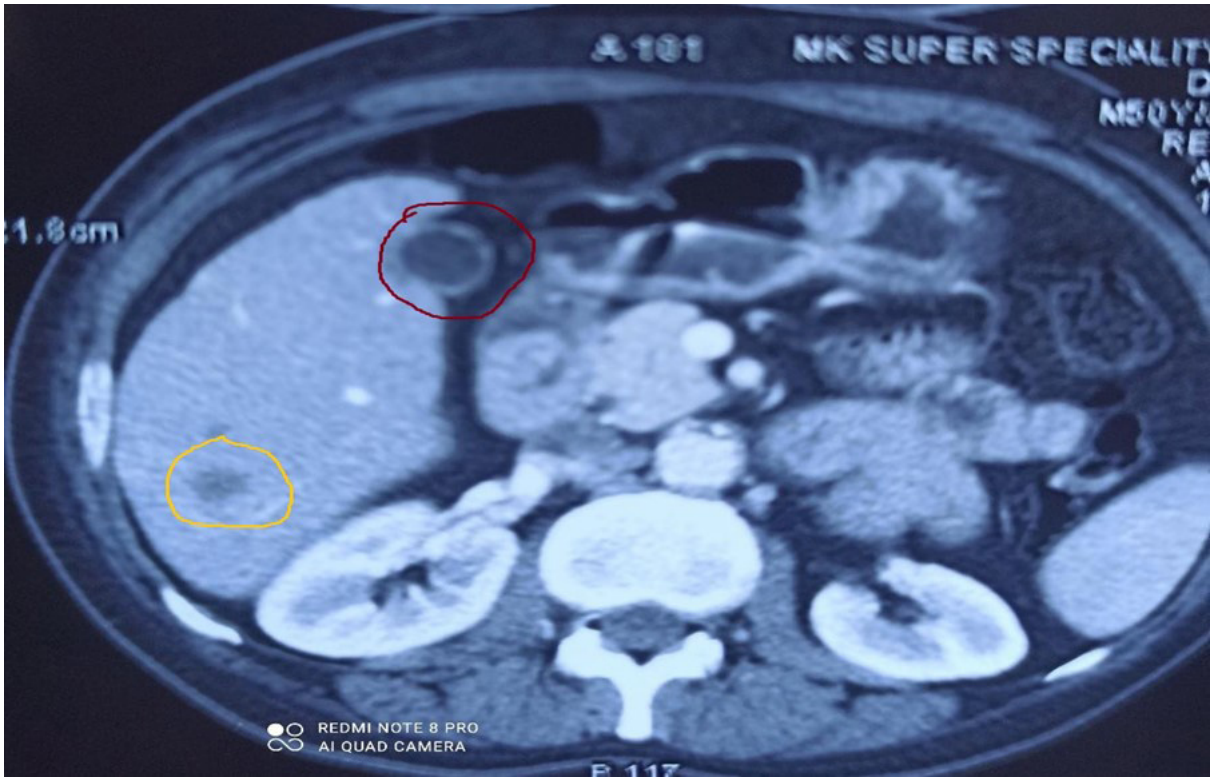
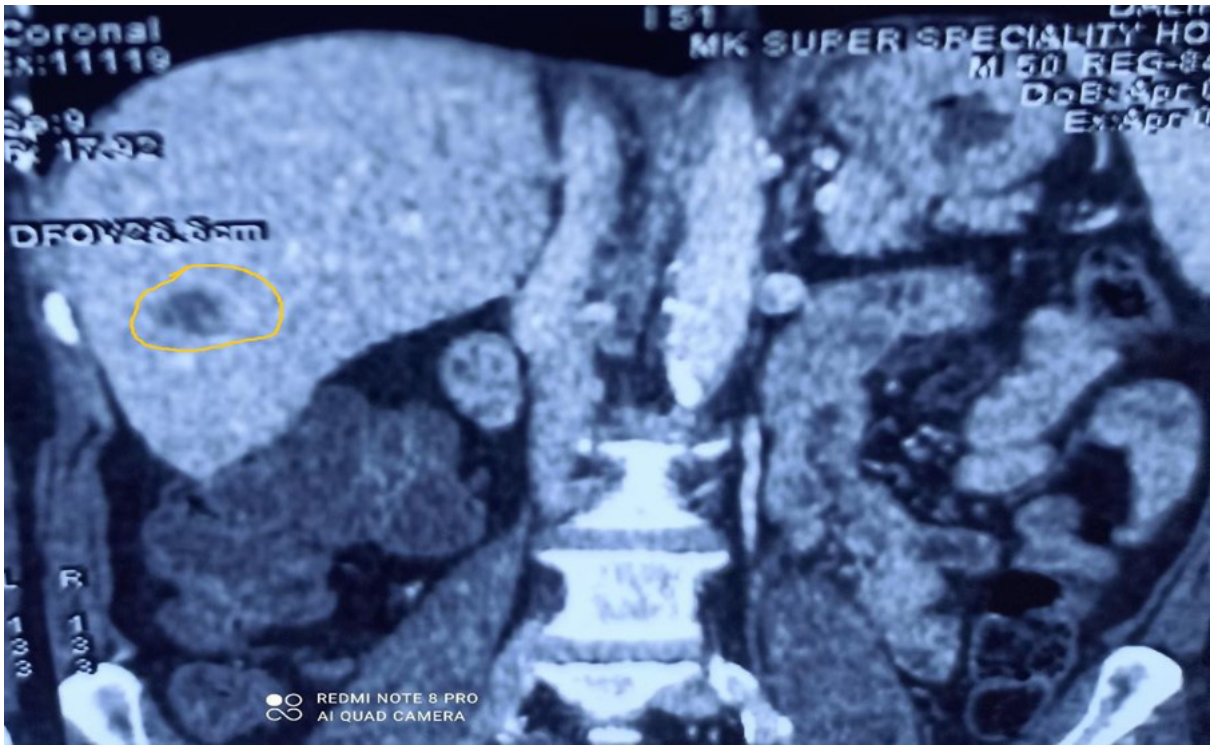


Figure 3. Triple Phase CECT Scan abdomen showing complete wash off of the lesion in venous phase (yellow circle)



DISCUSSION

The World Health Organization (WHO) aims at reducing HBV infections by 90% and increasing global vaccine coverage to 90% [6] for which health awareness is mandatory regarding hepatitis B prevention, screening, and vaccination [7]. The HBV infection behaves like tip of iceberg where 90% of patients are unaware about it, thus remain undiagnosed and in future can progress

to cirrhosis, and HCC [8]. Liver cancer is important cause of mortality associated with cancer pan globally with annual death toll of 700,000 [9]. Hepatocellular Carcinoma (HCC) represent the major variety of primary liver malignancies and is responsible for 70% to 85% of the total liver cancer burden [10]. The maximum cases of hepatocellular carcinoma (75% to 90%) develop in cirrhotic liver caused by various factors like chronic HBV & HCV, alcohol, obesity and diabetes mellitus, autoimmune hepatitis or hemochromatosis [11-13]. In last three decades, about 63% increase in total deaths has been reported globally because of viral hepatitis HBV & HCV infections because it leads to continuous liver damage which gradually progresses to cirrhosis and H.C.C [14]. HCC has occurred even at two years of age in areas with high prevalent rate and its incidence increases with age in all populations. HCC has a male predominance. The greater exposure of HBV & HCV infection and aflatoxin in African and Asian countries is an important reason for detection of 80% of all HCC cases from these areas [15-17]. The areas with less screening & vaccination and limited availability of treatment are detrimental in control of HBV infection [18]. The incidence of HCC in chronic HBV & HCV infection is 44%, and 21% respectively. In our case, uncommon thing was its first presentation with abdominal distension and on evaluation, all complications in form of H.C.C in bilateral lobes with portal vein thrombosis was detected which rendered the patient out of any option of liver transplantation, surgical intervention or Trans arterial chemoembolization (TACE) in view of decompensation. The mother was found to be also suffering from hepatitis B; vertical transmission was most probable cause in the patient for developing HBV infection. It lays stress on mandatory screening of every pregnant woman for HBV, starting of antiviral treatment in seventh month of pregnancy, if female has high HBV viral load and hepatitis B immunoglobulin 0.5 ml to newborn within 12 hours of birth, along with zero dose HBV, followed by full course of HBV. These are all recommendations of WHO.

CONCLUSION

Hepatitis B has many presentations varying from inactive carrier stage in majority to cirrhosis and H.C.C. The family screening is must, as it can help in timely detection of not only HBV infection but also its complication like H.C.C. The non-infected family members should all be mandatory vaccinated with HBV.

Conflict Of Interest

The authors declare that there was no conflict of interest or any kind of funding was taken for publishing this case report.

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