

HEPATITIS B RECURRENCE IN LIVER TRANSPLANT RECIPIENTS: WHAT DOES IT MEAN?

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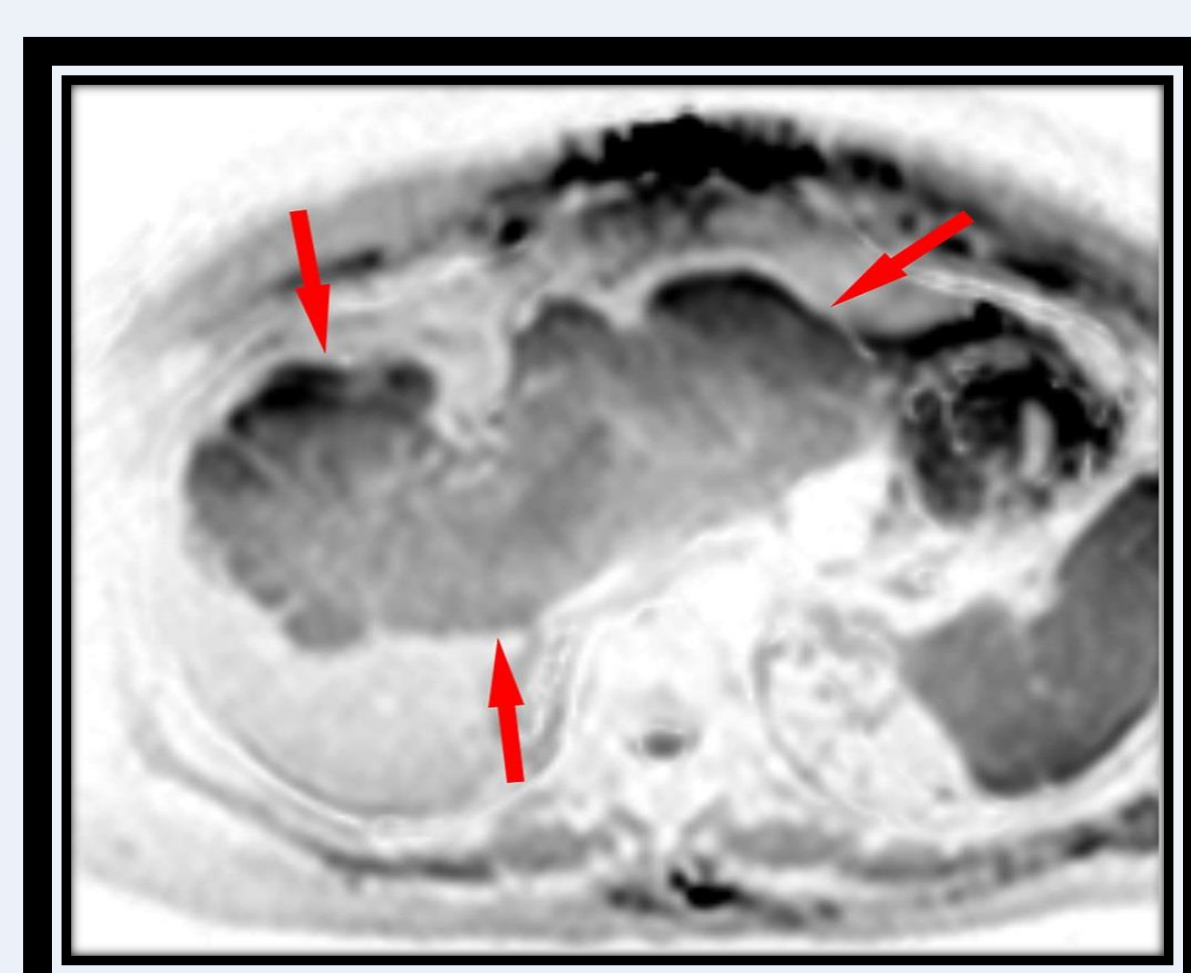
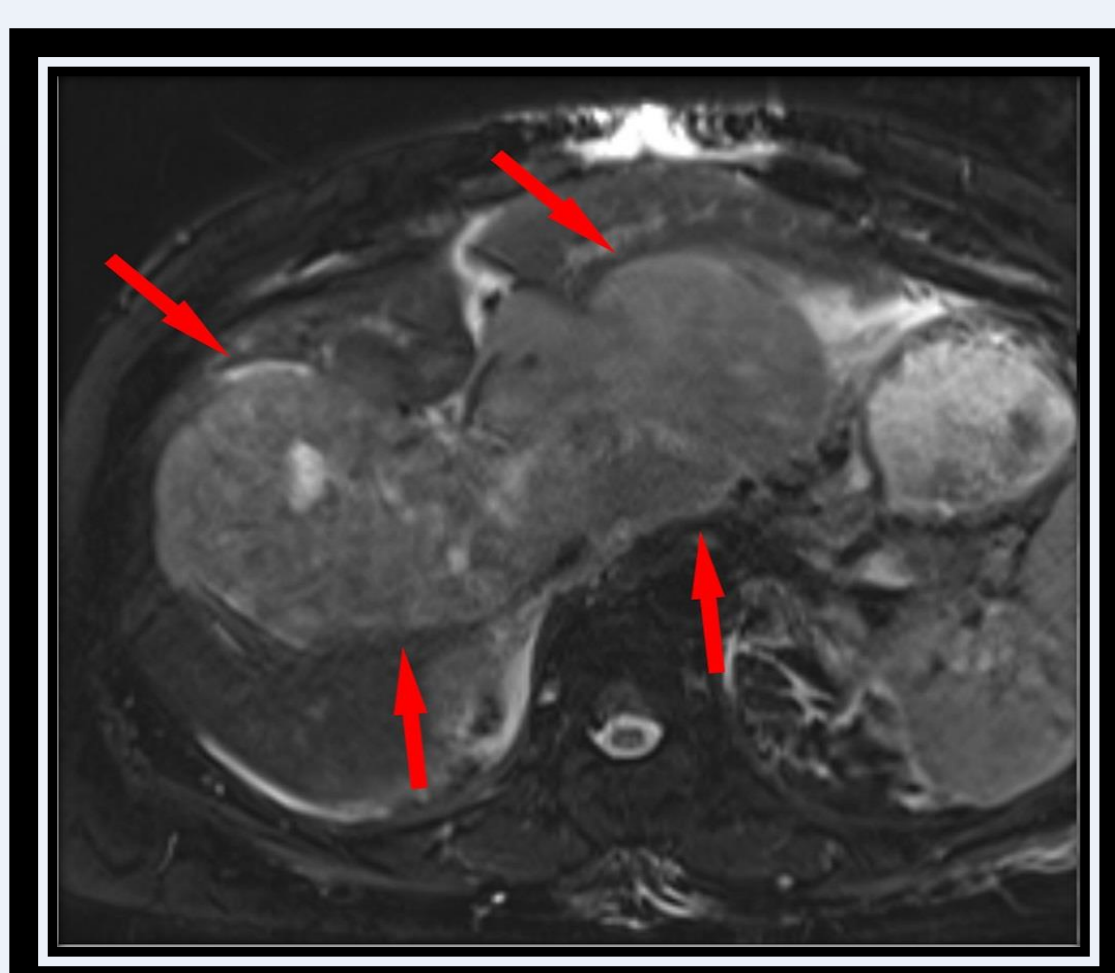
INTRODUCTION

- Hepatitis B-related liver diseases remain the major indication of liver transplantation in India..
- Acute hepatitis B with liver failure, end-stage cirrhosis caused by hepatitis B, and hepatitis B-associated hepatocellular carcinoma are among the hepatitis B-related diseases.
- In the era without prophylaxis of hepatitis B recurrence, hepatitis B would recur under immunosuppression and the clinical course after hepatitis B recurrence was similar to that of fulminant hepatitis B.
- Hence, liver transplantation was relatively contraindicated in patients with hepatitis B-related liver disorders.
- The clinical course following hepatitis B recurrence has changed dramatically in the era of hepatitis B recurrence prevention with a combination of antihepatitis B immunoglobulin and antiviral medicines.
- The results of liver transplantation for hepatitis B-related illnesses are much better than the results of liver transplantation for other reasons..
- The importance of hepatitis B recurrences is underappreciated.
- Hence this study was conducted to evaluate the features of recurrent hepatitis B infection in liver transplant recipients.

MATERIALS AND METHODS

This study included 24 of the 203 hepatitis B liver transplant recipients who had Hep B recurrence, treated at Amrita Institute of Medical Sciences from the year 2005 to 2015. Patients were separated into two groups: **Group A**, which had a liver transplant for hepatitis B-related liver failure, and **Group B**, which received a liver transplant for hepatitis B-related HCC. After a recurrence of hepatitis B, the clinical symptoms were documented and analyzed.

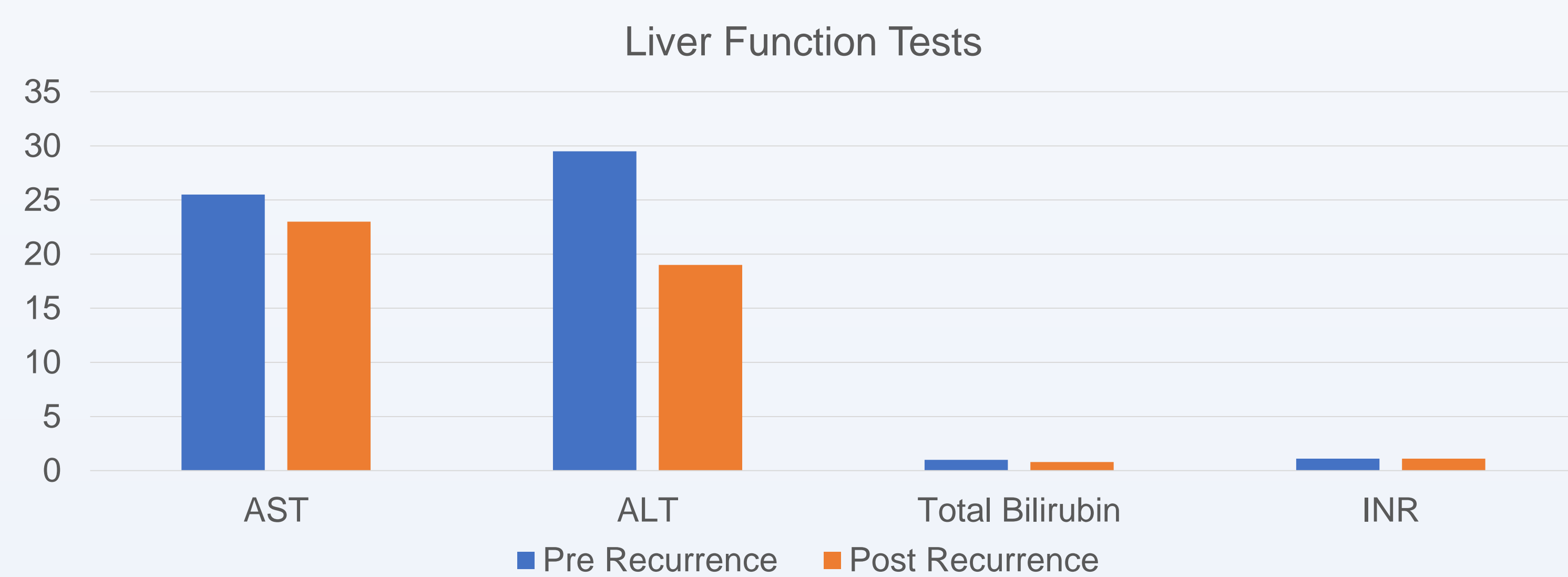
- **Definition of Hepatitis B Recurrence** - Surface antigen of hepatitis B (HBs Ag) was measured every 3 months after transplantation. Recurrence of hepatitis B was defined as the reappearance of HBs Ag by quantitative measurement.
- **Prophylaxis for Hepatitis B Recurrence** - The prophylaxis regimen of hepatitis B recurrence was conducted by the combination of low-dose antihepatitis B immunoglobulin (HBIg) and antiviral nucleotide/nucleoside analogs.
- **Immunosuppressive Regimen** - The immunosuppression was conducted by steroid, tacrolimus, and mycophenolate mofetil.
- **Diagnosis of HCC Recurrence** - After liver transplantation, the patients were followed up with Liver function tests, α -fetoprotein, and liver Sonography/CT Scan performed every 3 months. Recurrence of hepatocellular carcinoma was defined when dynamic CT detected a tumor with a typical HCC imaging pattern in the liver or extrahepatic tumors, and the date of recurrence was the day that CT was done.



RESULTS

FEATURES	GROUP A (n=11)	GROUP B (n=13)	p Value
Gender (M,F)	9,2	10,3	0.696
Age (years)	50.6 ± 9.2	51.6 ± 6.4	0.869
MELD	22.1 ± 9.9	12.4 ± 5.8	< .001
Operation			0.106
DDLT	3	2	
LDLT	8	11	
Time to recurrence	3-19months	9-36 months	0.051
Antiviral Agents			0.632
Lamivudine	8	9	
Entecavir	2	3	
Tenofovir	1	1	

- There were 11 individuals in group A and 13 patients in group B among the 24 patients with hepatitis B recurrence.
- Group A patients had a mean age of 50.6 ± 9.2 years , while Group B patients had a mean age of 51.6 ± 6.4 years (p = 0.869).
- Prior to transplantation, group A patients had a MELD score of 22.1 ± 9.9, while group B patients had a score of 12.4 ± 5.8 (p < 0.001).
- The median time from transplantation to hepatitis B recurrence for group A patients was 9 months (range from 3-19months, whereas for group B patients it was 13 months (range from 9-36 months) (p = 0.051).
- After the recurrence of hepatitis B, both groups' liver function was nearly normal.
- In group B, 12 patients experienced HCC recurrence, with 8 of 12 individuals having hepatitis B recurrence before HCC recurrence.
- The time between recurrence of hepatitis B and HCC was 2 to 12 months .



CONCLUSIONS

- In most facilities, high-/low-dose HBIg and lifetime antiviral nucleotide/nucleoside analogues are used to prevent recurrence of hepatitis B.
- Even then hepatitis B recurrence can occur in liver transplant recipients.
- Despite the recurrence of hepatitis B, the liver function, AST and ALT, and coagulation function were nearly normal during ongoing antihepatitis B nucleotide/- nucleoside analogue therapy. Hence proving that the present regimen can successfully prevent recurrence of hepatitis B.
- Hepatitis B recurrence is strongly linked with HCC recurrence in individuals who have had a liver transplant for hepatitis B associated with HCC. When HBs Ag recurs, HCC recurrence must be closely monitored.

DISCLAIMER

All authors agree that there is no conflict of interest, and this project has been approved by the Institutional Ethics Committee