

RECURRENT HBV INFECTION IS DIRECTLY ASSOCIATED WITH DE NOVO MALIGNANCIES IN LIVER TRANSPLANT RECIPIENTS

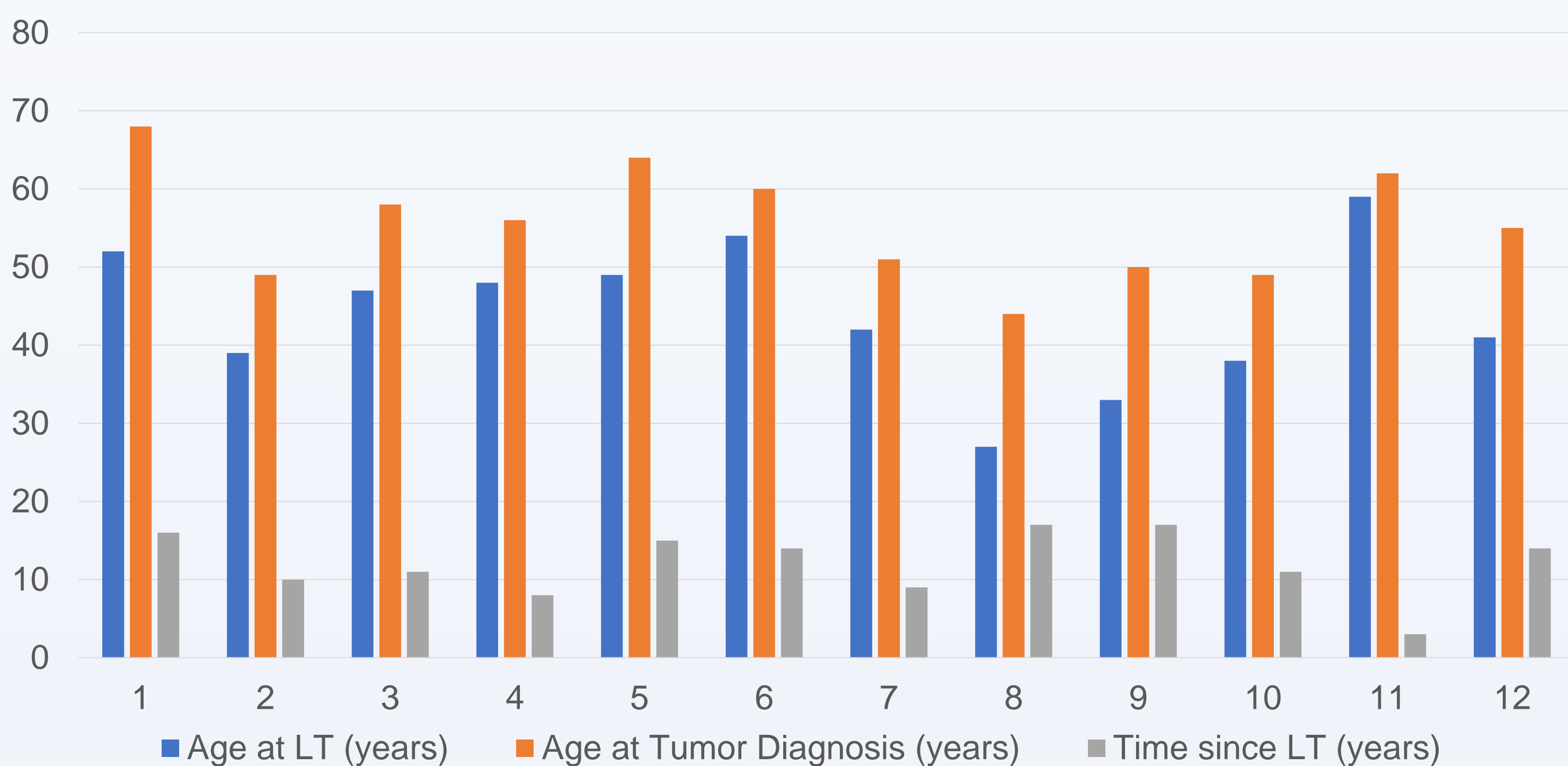
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INTRODUCTION

- Liver transplantation is a proven therapeutic option for life-threatening illnesses such as acute liver failure, hepatocellular carcinoma, and end-stage liver disease, with positive long-term outcomes.
- Immunosuppressive drugs are successful at preventing graft rejection, but they also raise the risk of infection and cancer.
- When compared to the general population, liver recipients have a threefold increased risk of cancer.
- Primary de novo cancers that arise in the graft are poorly understood.
- This study was aimed at evaluating the relation between de novo lesions in the graft and its association with recurrent viral infection.

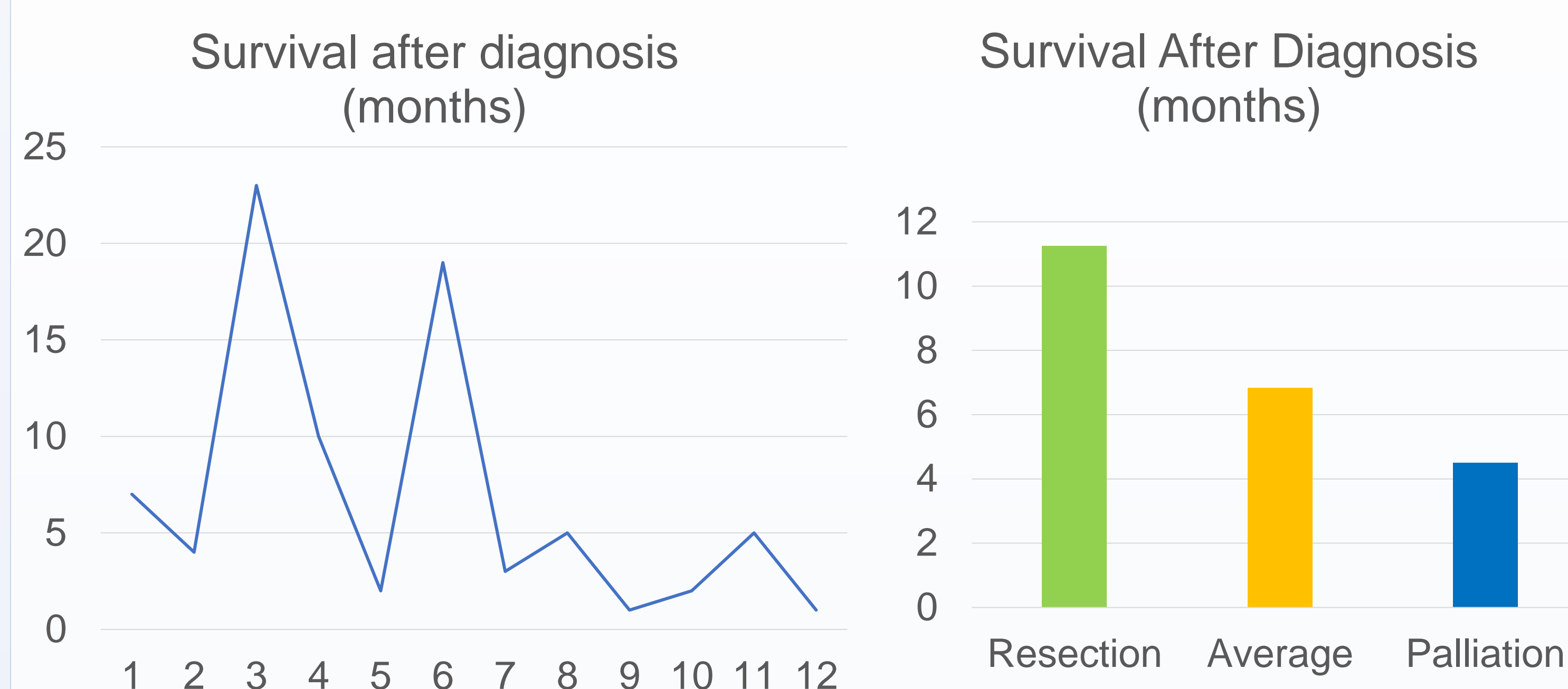
MATERIALS AND METHODS

- The follow-up data of liver transplant patients who underwent transplantation from 2005 to 2018 at Amrita Institute of Medical Sciences, Kochi, India was reviewed.
- Patient characteristics along with clinical and pathological data were collected and analyzed.
- The study included all cases of new intrahepatic lesions that developed throughout the follow-up period.
- Recurrent Hepatitis B infection was defined as the reappearance of HBsAg by quantitative measurement.
- De novo tumor was defined as a new lesion found in the graft on follow-up with CT imaging with typical features of a tumor and the date of recurrence was the day the CT was done.



RESULTS

- At a median of 9 years (range 3 -17 years), 12 of the 1489 patients who had a liver transplantation over the given period were diagnosed with a new primary lesion in the graft.
- A strong association was found between viral reinfection and the occurrence of these de novo lesions.
- Among the 12 patients, 11 patients had HBV reinfection and one patient had HCV reinfection.
- The average duration of survival after diagnosis was 6.83 months. The average duration of survival after resection was 11.25 months while that after palliative treatment was 4.6 months.



CONCLUSIONS

- Our study showed that there is a significant association between the development of new primary intrahepatic neoplasms in liver transplant patients and recurrent viral hepatitis, especially HBV hepatitis.
- Patients on long-term follow-up after liver transplantation should be regularly evaluated for de novo lesions in the graft.
- The risk of intrahepatic neoplasia should be considered while screening liver transplant recipients for malignancy. Patients with recurring illness, particularly viral hepatitis, may be at increased risk.
- Although this is a rare complication and has a poor prognosis, surgical resection of the localized disease may have some benefits on the overall survival of the patient.

DISCLAIMER

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

PATIENT	1	2	3	4	5	6	7	8	9	10	11	12
Gender	Male	Male	Female	Male	Female	Male	Male	Female	Female	Male	Female	Male
Age at LT (years)	52	39	47	48	49	54	42	27	33	38	59	41
Indication for LT	HCV cirrhosis, ALD	HCV cirrhosis, ALD	HBV Cirrhosis	HBV cirrhosis	HBV Cirrhosis	HBV cirrhosis	HBV and HDV cirrhosis	PSC	HCV cirrhosis, ALD	HBV Cirrhosis	HCV cirrhosis, ALD	HBV Cirrhosis
HBV Prophylaxis Recurrence	-	-	-	HbIG	-	HbIG	-	HbIG	HbIG	HbIG	-	HbIG
Treatment for Recurrence	Lamivudine, Entecavir	Lamivudine, Entecavir	Lamivudine, Entecavir	Pegylated Interferon	Adefovir	Lamivudine, Entecavir	Lamivudine, Entecavir	None	Lamivudine, Entecavir	Lamivudine, Entecavir	Lamivudine, Entecavir	Lamivudine, Entecavir
Age at Tumor Diagnosis (years)	68	49	58	56	64	60	51	44	50	49	62	55
Time since LT (years)	16	10	11	8	15	14	9	17	17	11	3	14
Immunosuppression	Tac + MMF	Tac	Tac + MMF	Tac + MMF	Tac	Tac + MMF	CsA	Tac	Tac + MMF	Tac	Tac + MMF	Tac + MMF
Type of Hepatic Tumor	HCC	HCC	HCC	HCC	HCC	HCC	HCC	HCC	HCC	HCC	HCC	HCC
Localisation	Segment 4	Multifocal	Segment 4	Segment 6	Diffuse	Segment 4	Multifocal	Segment 4	Diffuse	Diffuse	Segment 6	Segment 4
Therapy	Resection, SIRT	Palliative	Resection	Wedge Resection, Sorefenib	Palliative	Palliative	Palliative	Resection, SIRT	Letrozole (Palliative)	Palliative	Palliative	Palliative
Survival after diagnosis (months)	7	4	23	10	2	19	3	5	1	2	5	1