MTORi 使用時機及腎臟移植術後發生癌症之分析

The Mammalian Target of Rapamycin Inhibitors (MTORi) and Post-transplant Malignancy in Kidney Transplantation

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Background

Improving long-term graft and patient survival is a major challenge in kidney transplantation due to prolonged immunosuppression significantly increases the risk of malignancy, contributing to the overall morbidity and mortality. The aim of our study was to investigate the association of Mammalian Target of Rapamycin Inhibitors (mTORI) usage (early and late) with major transplant outcomes and post-transplant malignancy in kidney transplant recipients from a medical center in Taiwan.

Material and methods

A total of 201 adult kidney transplant recipients surviving with a functioning graft> 3 months were included. The mean follow-up days were 2368. mTORi users were categorized into early and late users at the cut-off of 6 months duration after transplantation. Odds ratios for malignancy were examined using multivariate logistic regression analysis while hazard ratios for clinical outcomes were analyzed using multivariate Cox regression analysis.

Results

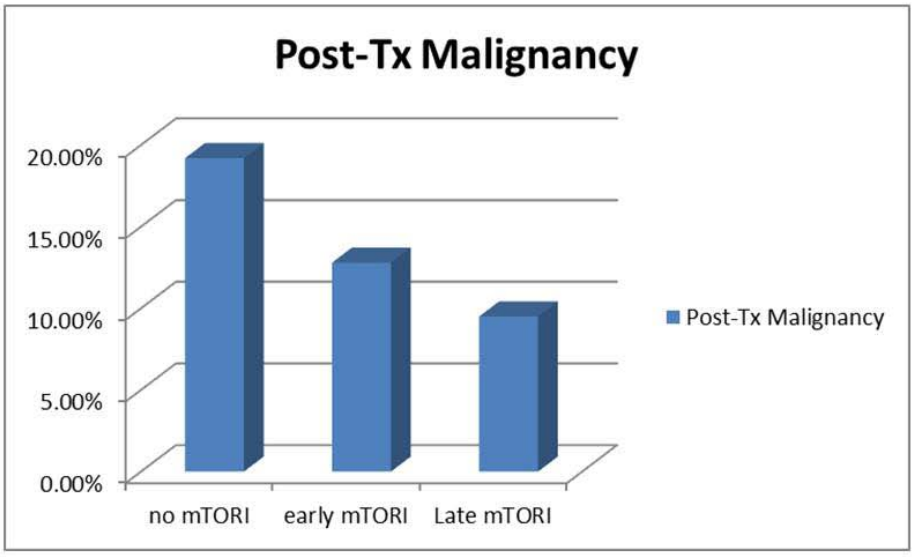
The major causes of death in our cohort were cardiovascular disease, malignancy and infection. Urinary tract urothelial carcinoma (UTUC) and hepatoma comprised the major malignancy after transplantation [figure1]. After adjusting for confounding factors, mTORi users has lower risk of post-transplant malignancy (adjusted OR=0.28, *P*=0.04) [figure2]. Early mTORI users have better overall graft survival (adjusted HR=0.73, *P*=0.52) and patient survival(adjusted HR=0.95, *P*=0.95) when compared to later users and non-users.

Figure 1

Of the 201 renal transplant recipients, 28 patients were diagnosed in follow-up of 2368±1700 days

Type of malignancy	Frequency
Breast cancer	1
Colon cancer	1
Cervix cancer	1
Hepatoma	7
Lung cancer	2
Lymphoma	1
Pancreas cancer	1
Prostate cancer	2
Renal cell carcinoma	1
UTUC	10
Peritoneal carcinomatosis	1
Total	28

UTUC, Urinary tract urothelial carcinoma



	Reference	Adjusted OR	P-value
mTORI (n=123)	No mTORI	0.28 (0.08-0.96)	0.04
Early mTORI (n=39)	No mTORI	0.64 (0.18-2.24)	0.49
Late mTORI (n=84)	No mTORI	0.35 (0.11-1.09)	0.07

Conclusion

In our renal transplant recipients, the leading causes of death were cardiovascular disease, infection, and malignancy. The most common post-transplant malignancy was UTUC and hepatoma. The usage of mTORI was associated with a decreased risk of post-transplant malignancy