

Ramadhan Fasting in Kidney Transplant Recipients (Ramafit Study)

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Introduction

Ramadhan fasting is an obligatory act for healthy adult Muslim throughout the world which requires abstinence from food and drink from dawn to sunset. It is estimated that 63.5% of Muslim population in Malaysia and many practices fasting during Ramadhan. To date, there were many studies being done in evaluating effect of Ramadhan fasting in kidney transplant patients, however all of these studies were done in Middle Eastern and North Africa counties whereby the average fasting duration is between 14 to 18 hours. In Malaysia, the average fasting duration is between 12 to 14 hours. There has always been a concern that dehydration may lead to reversible or irreversible deterioration in kidney function.

Objective

To examine the changes in eGFR, blood pressure and proteinuria among kidney transplant recipients before, during and after Ramadhan fasting.

Methods

This is a retrospective observational study involving kidney transplant recipients attending University Malaya Medical Centre (UMMC) from January 2021 till August 2021. A total of 234 kidney transplant recipients were identified from the UMMC Kidney Transplant Registry till January 2021. Among the 234 kidney transplant recipients, 23 Muslim patients who practices Ramadhan fasting were identified and enrolled for evaluation. On the other hand,

23 age and sex matched patients who did not practice Ramadhan fasting were enrolled into the control group for comparison. All patients had followed within 3 months during the pre-Ramadhan period, 1 month during Ramadhan period and 3 months during the post-Ramadhan period for changes in their eGFR, blood pressure and proteinuria.

Results

A total of 46 patients were divided into 2 groups; fasters (n=23) and non-fasters (=23). The mean age for study population was 56.2 ± 8.4 years, 5.7 ± 4.0 years post kidney transplantation with mean baseline eGFR of 55.4 ± 14.3 ml/min among fasters. There was slight male predominant seen equally between the fasters and non-fasters groups (52.2% and 52.2% respectively). Non-fasters were younger and have lower eGFR at baseline compared to faster, though not statistically significant. No difference seen between the changes in eGFR between the fasters and non-fasters during the pre-Ramadhan, during Ramadhan and post-Ramadhan period. There was slight increment of serum creatinine observed in fasters group as compared to non-fasters group during the Ramadhan period however it was not statistically significant (110.3 ± 37.2 , 108.3 ± 35.9 micromole/L, $P=0.96$ respectively). Compared to baseline, there were no significant differences observed between the fasting and non-fasting groups in terms of eGFR, MAP and urinary protein excretion.

Conclusions

We observed that Ramadhan fasting was not associated with adverse effects on kidney function among kidney transplant recipients with normal as well as impaired kidney allograft function.