KSN 2018
Seoul, Korea · May 17 - 20

Abstract Type : Poster
Presentation No. : PTL 005

Is body mass index a significant independent risk factor for graft failure and patient death in the modern immunosuppressive era?

Ho Sik Shin[1], Ye Na Kim[1], Yeonsoon Jung[1], Hark Rim[1], Anil Chandraker[2]
[1]Department of Internal Medicine-Nephrology, Kosin University Gospel Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Transplantation Research Center, Brigham & Women's Hospital, Harvard Medical School, United States

Objectives:

In previous studies, kidney transplant recipients with a high body mass index (BMI) had inferior or superior graft and patient outcomes compared to patients with a lower BMI. We used United Network for Organ Sharing (UNOS) data to determine whether obesity affects patient and graft outcomes following kidney transplantation.

Methods:

The study sample consisted of 69,749 recipients from 1987-1999 and 197,986 recipients from 2000-2016. BMI values were further categorized into 11 categories: below 18 kg/m2, from 18 to 36 kg/m2 at 2 kg/m2-unit increments, and above 36 kg/m2. We created multivariate models to evaluate the independent effect of BMI on graft and patient outcomes, adjusting for factors known to affect graft success and patient survival.

Results:

Cox regression modeling hazard ratios showed that the relative risk for graft loss, patient death and patient death with a functioning graft of the modern immunosuppressive era (2000-2016) has significantly decreased compared to the previous era (1987-1999) of living kidney transplantation and pre-transplant recipient BMI is a significant independent risk factor for graft failure in LD and DD cases, patient death, and death of a patient with a functioning graft in LD cases, especially in the previous immunosuppressive era. Elevated BMI was associated with an increased risk of delayed graft function and acute rejection was also significantly associated with BMI.

Conclusions:

Recipient BMI is a significant independent risk factor for graft failure in LD and DD cases, patient death, and death of a patient with a functioning graft in LD cases, especially in the previous immunosuppressive era and the relative risk for graft loss, patient death and patient death with a functioning graft of the modern immunosuppressive era (2000-2016) has significantly decreased compared to the previous era (1987-1999) of living kidney transplantation.

Figure 1. Cox proportional hazards model for graft loss according to BMI category

