

TELL ME YOUR WEIGHT BEFORE RENAL TRANSPLANT AND I'LL TELL YOU THE RISKS



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INTRODUCTION AND AIMS: Overweight is highly prevalent in renal transplant candidates and it has been associated with multiple complications after renal transplantation (infections, urinary fistulas/lymphoceles, allograft dysfunction, new onset diabetes after transplantation, Metabolic Syndrome, and others). In this study, we evaluated the occurrence of complications in the first year after renal transplantation according to the pre-transplant Body Mass Index (BMI) of the recipients.

METHODS: Retrospective analysis of patients with age > 18 years which have undergone the first renal transplantation (live or deceased-donor) between 2012 and 2015 and have been followed up for at least 1 year in our Center. We compared the complications in the first year of transplant in patients with BMI <25 Kg/m², 25-30 Kg/m² and ≥ 30 kg/m². Statistical analysis were conducted using *R Statistical Software version 3.2.5*.

RESULTS:

BMI (kg/m ²)	<25 (Group 1)	25-30 (Group 2)	≥30 (Group 3)	
N	48	41	55 (max. 38,3 Kg/m ²)	144 (96 men, 48 women) (N renal Tx CHUC 1/1/12 - 31/12/15: 526)
Mean Age (years), n(SD)	47.2 (13.1)	51.2 (12.0)	53.9 (10.0)	p=0.017
Male Gender, n(%)	31 (64.6)	32 (78.0)	33 (60.0)	p=0.167
Mean Donor's Age, n(SD)	47.9 (15.7)	52.9 (13.1)	52.8 (12.8)	p=0.141
Male Gender (Donor), n(%)	24(50.0)	19(46.3)	38(69.1)	p=0.048
Pre-Transplant DM, n(%)	3 (6.3)	6 (14.6)	13 (23.6)	p=0.050
Mean Cold Ischemia Time, n(SD)	16.9 (6.4)	17.4 (4.7)	18.5 (4.6)	p=0.301

Table 1. Characteristics of the 3 groups

Any Complication (n,%)	
<3 months	>3 months
26(54.2); 28(68.3); 45(81.8)	9 (18.8); 13(31.7); 15 (27.3)
p=0.002	p=0.357
G2: ORadj* 1.91 (0.79-4.71)	G2: ORadj 1.84 (0.69-5.08)
G3: ORadj 4.46 (1.76-12.07)	G3: ORadj 1.48 (0.57-4.40)
The major complications in both groups were infections (mostly urinary).	

Table 2. Complications in the first year of transplantation.

* Adjusted OR for recipient age, donor's gender and pre-transplant DM

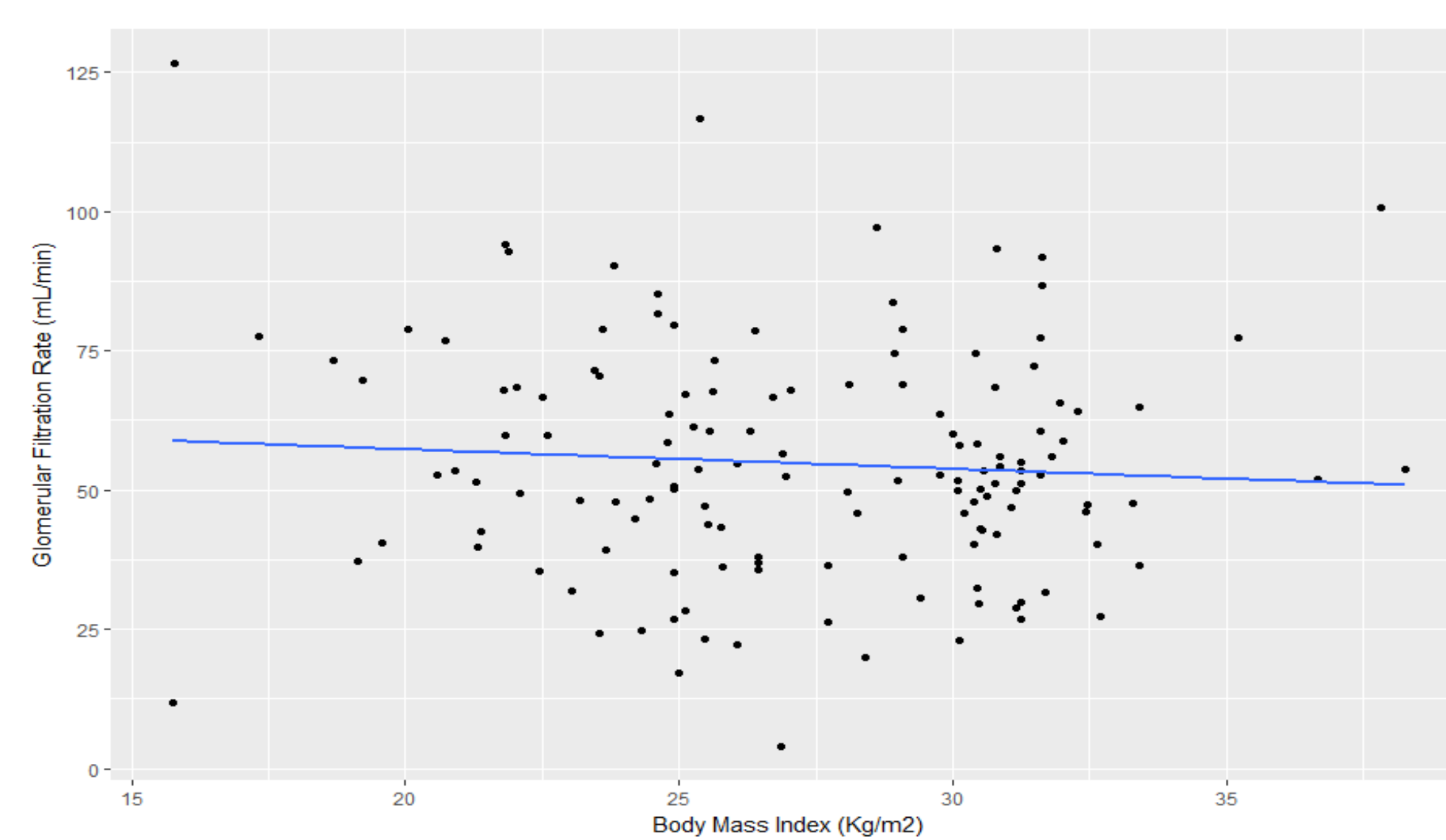
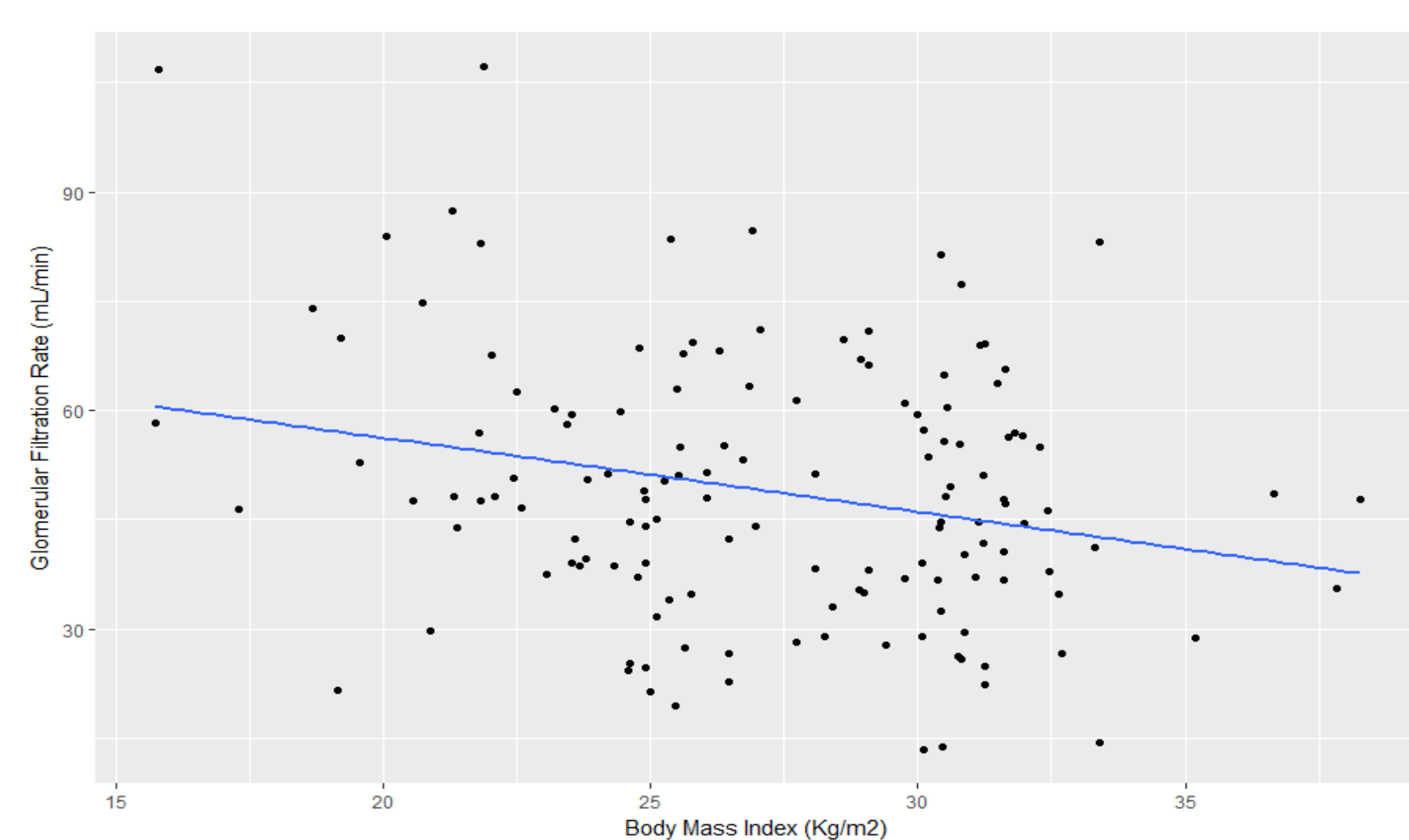


Figure 1 and 2. Negative correlation between Glomerular Filtration Rate and BMI at the time of discharge after transplant (regression estimate -0.83 adjusted for age, p=0.018), but not at 1 year after transplant (regression estimate 0.02, p=0.960).

Complications <3 months (n,%)	
Infections	10(20.8); 13(31.7); 35(63.6) p<0.001 G2: ORadj 2.32 (0.97-5.71) G3: ORadj 7.74 (3.08-20.85)
Urological (urinary fistula, lymphocele ...)	10(20.8); 12(29.3); 14(25.5) p=0.654 G2: ORadj 1.59 (0.60-4.34) G3: ORadj 1.12 (0.42-2.99)
Delayed Graft Function	7(14.6); 10(24.4); 12(21.8) ; p=0.038 ; G2:ORadj1.64 (0.54-5.20); G3:ORadj1.66 (0.56-5.18).
Hematological	2(4.2); 3(7.3); 8(14.5) p=0.168
Vascular	8(16.7); 3(7.3);4(7.3) p=0.222
New-Onset Diabetes After Transplantation	3(6.2); 2(4.9); 4(7.3) p=0.891
Acute Rejection	2(4.2); 3(7.3); 2(3.6) p=0.683
Overload (n,%)	1(2.1); 1(2.4); 4(7.3) p=0.340

Table 3. Complications in the first 3 months after the transplant.

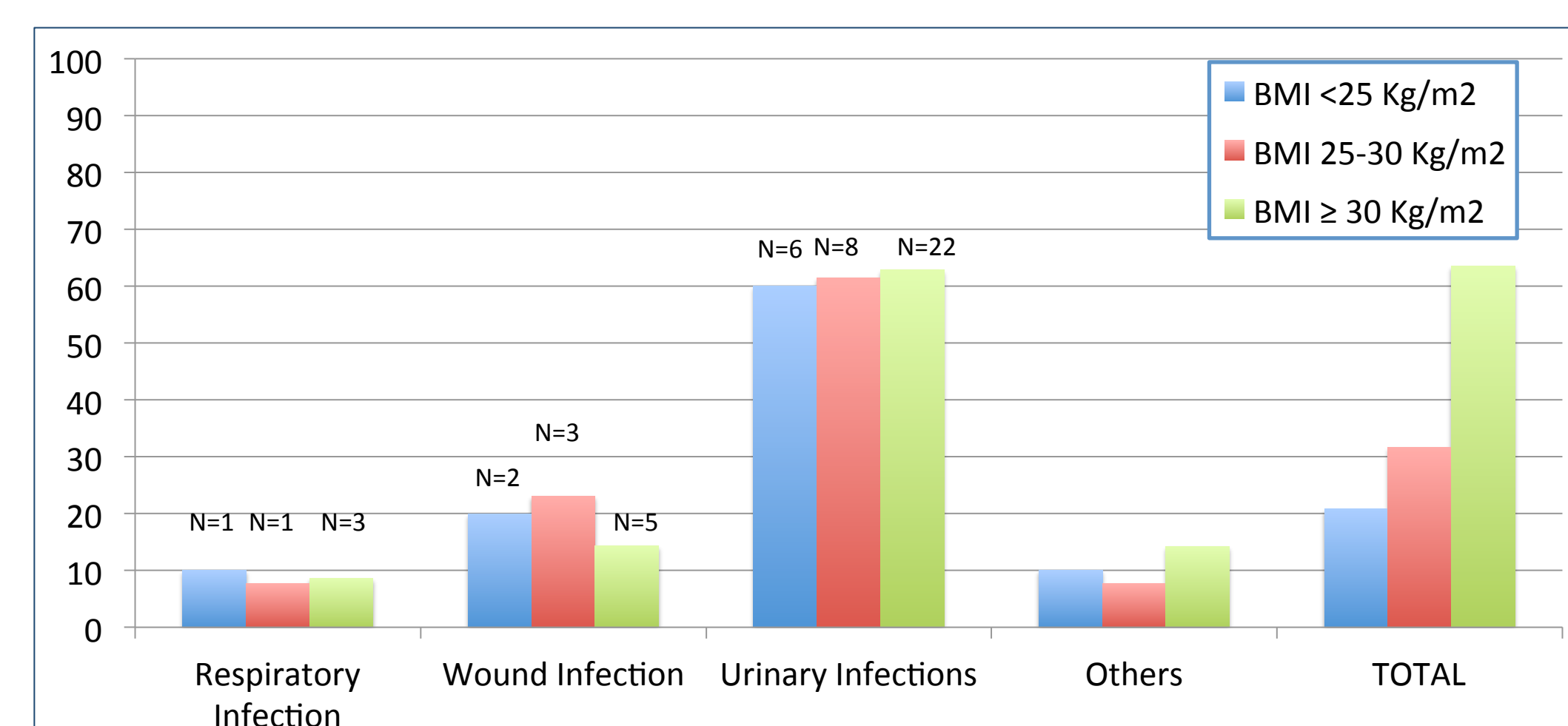


Figure 3. Percentage of infections in the first 3 months after the transplant.

CONCLUSIONS: The probability of suffering complications in the first 3 months after the transplant, particularly **infections and allograft dysfunction**, was significantly increased in recipients with high BMIs. This study highlights the importance of controlling the weight before renal transplant.

IDENTIFIER: Renal transplantation. Epidemiology and outcome; **REFERENCES:** Hill CJ, Courtney AE, Cardwell CR, et al. Recipient obesity and outcomes after kidney transplantation: a systematic review and meta-analysis. *Nephrol Dial Transplant* 2015; Naik AS, Sakhuja A, Cibrik DM. The Impact of Obesity on Allograft Failure After Kidney Transplantation: A Competing Risks Analysis. *Transplantation* 2015; Nicoletto BB, Fonseca NKO, Manfro RC, Gonçalves LFS, Leitão CB, Souza GC. Effects of Obesity on Kidney Transplantation Outcomes: A Systematic Review and Meta-Analysis. *Transplantation* 2014.