

### **Cold Ischemia Time as a Risk Factor for Graft Dysfunction Types in Kidney Transplant Recipients**

Teodor Căluși<sup>1</sup>, Bogdan Sorohan<sup>2,3</sup>, Alexandru Iordache<sup>4</sup>, Florea Purcaru<sup>5</sup>

<sup>1</sup>Intensive Care Unit, Department 2, Fundeni Clinical Institute, Bucharest, Romania

<sup>2</sup>Department of Nephrology, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Kidney Transplantation, Fundeni Clinical Institute, Bucharest, Romania

<sup>4</sup>Department of Urology, Fundeni Clinical Institute, Bucharest, Romania

<sup>5</sup>Craiova University of Medicine and Pharmacy, Craiova, Romania

#### **Abstract**

*Introduction:* Cold Ischemia time (CIT) could be informative regarding the possibility of slow graft function (SGF) or delayed graft function (DGF). We aim to determine the incidence of graft dysfunction types and the association with ischemia time.

*Material and Methods:* We performed a prospective study on 54 adults KT recipients, transplanted between 1 of January 2019 and 31 of December 2019. Graft was defined and classified into three categories: immediate graft function (IGF), SGF, and DGF. Cox regression analysis has been used to identify risk factors for graft dysfunction.

*Results:* According to multivariate Cox regression analysis, it was observed that CIT [HR= 1.004, 95%CI = 1.001-1.007, p = 0.007] was an independent risk factor for the occurrence of graft dysfunction, while the brain death donor [HR= 11.94, 95%CI= 0.73-194.94, p= 0.08] and diabetes [HR = 2.71, 95%CI = 0.083-8.80, p = 0.09] had a trend of association with the followed outcome. In two separate models of multivariate we found that CIT was an independent risk factor for DGF [HR = 1.003, 95%CI = 1.001-1.006, p = 0.01], but not for SGF.

*Conclusion:* In conclusion we found that kidney graft dysfunction types are associated with high CIT and CIT was an important risk factor for DGF, but no SGF in KT recipients.

**Key words:** kidney transplant, cold ischemia time, graft function