

Abstract Type : Poster

Abstract Submission No. : PO-1643

Clinical benefits of coronary CT angiography in preventing cardiovascular complications among renal transplant recipients

Si Youn Kim¹, Sangmi Lee², Sojung Yoon¹, Su Hyung Lee³, Shinchun Kang², Geun Woo Ryu², Seonyeong Lee², Hyung Woo Kim², Kyu Ha Huh⁴, Beom Seok Kim²

¹Department of Internal Medicine-Nephrology, Yonsei University College of Medicine, Korea, Republic of

²Department of Internal Medicine-Nephrology, Severance Hospital, Korea, Republic of

³Department of Surgery, Ajou University School of Medicine, Korea, Republic of

⁴Department of Surgery, Yonsei University College of Medicine, Korea, Republic of

Objectives: The aim of this study is to investigate whether performing coronary CT angiography in KT recipients is beneficial in preventing cardiovascular complications in long term.

Methods: Respective analysis was performed on 281 patients who underwent renal transplant between March 2011 and May 2014 at Severance Hospital. Only patients with no history of coronary artery disease and with no signs or symptoms suggestive of cardiovascular disease during the past month were enrolled in the study. Study population was categorized into intervention group that underwent coronary CT (n=86) and the control group that didn't go through coronary CT (n=195). The severity of CAD according to coronary CT was also divided into mild CAD, 1 vessel obstructive, 2 vessels obstructive (or in the proximal left anterior descending), and 3 vessels obstructive (or left main).

Results: During a mean follow up duration of 6.5 years, the incidence rate of MACE in total patients was 7.68 (95% CI: 4.55 - 13.0) events per 1000 person-year. And the incidence rate of MACE was much lower in the intervention group who had proper management after coronary CT surveillance: 3.46 (95% CI: 0.87 - 13.8) and 9.63 (95% CI: 5.47 - 17.0) events per 1000 person-year in intervention and control group, respectively. Through multivariate Cox proportional hazard model adjusted with confounding factors, surveillance through coronary CT was determined as an independent factor that reduces the risk of cardiovascular complications in renal recipients (HR=0.07 [95% CI: 0.01 - 0.49], P=0.007). The mean 3-year eGFR were 73.5 ± 19.7 and 77.2 ± 15.9 mL/min/1.73 m² in intervention and control group, respectively, and there was no significant difference between two groups (P=0.131).

Conclusions: High detection rate of CAD through coronary CT and with proper management combined, it leads to much lower incidence rate of MACE compared with the control group in long term.

Figure 1. Kaplan-Meier curve for MACE according to surveillance of coronary CT angiography

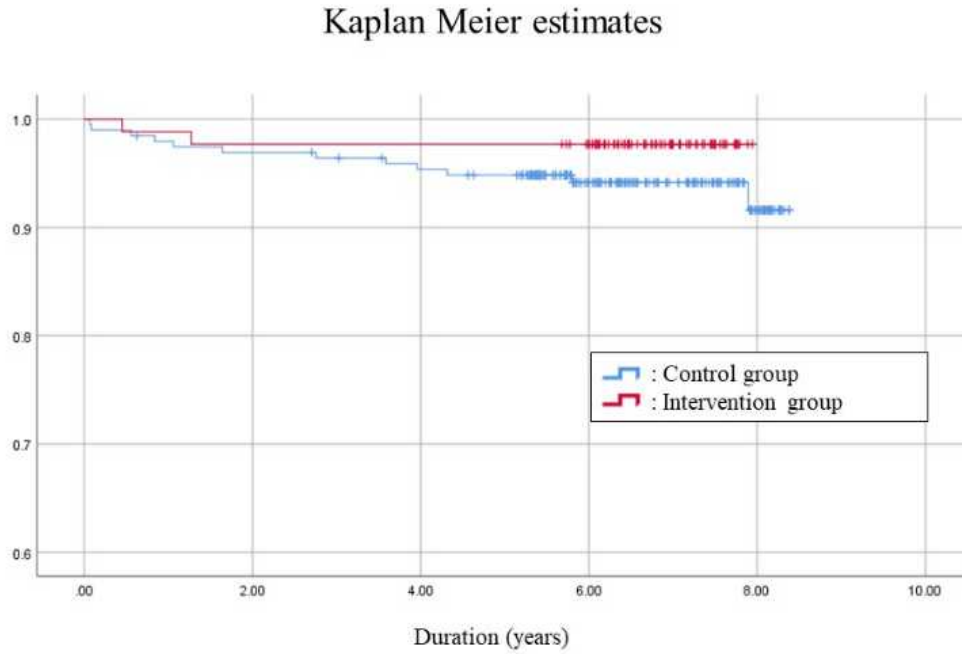


Table1. Incidence rates of MACE according to surveillance of coronary CT angiography

	Model 1		Model 2		Model 3	
	HR (95% CI)	<i>p</i>	HR (95% CI)	<i>p</i>	HR (95% CI)	<i>p</i>
Control	Ref		Ref		Ref	
Coronary CT angiography	0.39 (0.09-1.77)	0.225	0.25 (0.05-1.22)	0.086	0.07 (0.01-0.49)	0.007

Model 1: unadjusted

Model 2: adjusted for age, sex, body max index, HTN, DM, systolic blood pressure

Model 3: Model 2 + antiplatelet use, statin use, RAAS drug use, Beta blocker use, albumin, estimated glomerular filtration rate, total cholesterol