

Abstract Type : Poster

Abstract Submission No. : 1552

Clinical usefulness of exercise stress echocardiography in patients with end-stage kidney disease who are planning kidney transplantation

MIN SUK SEO, Kyungho Lee, Hye Ryoung Jang, Jung Eun Lee, Woosong Huh, Yoon-Goo Kim, Junseok Jeon
Department of Internal Medicine-Nephrology, Samsung Medical Center, Korea, Republic of

Objectives: Atherosclerotic coronary artery disease (CAD) is a well-known complication of chronic kidney disease (CKD). Patients with CAD have a higher risk of cardiac events in the peri-transplant periods. For these reasons, it is important to assess for coronary artery in the candidates who are planning kidney transplantation. However, the benefit of cardiovascular screening is unclear and ideal approach to cardiovascular screening is unknown. The purpose of this study was to evaluate the clinical usefulness of exercise stress echocardiography in patients with end stage kidney disease who are planning kidney transplantation.

Methods: This retrospective study included 1315 patients who were underwent pre-kidney transplantation work-up from October 2016 to September 2021 in Samsung Medical Center. Patients diagnosed with CAD within 1 year were excluded. Patients were divided into high-risk group [age > 60 years, diabetes, coronary artery bypass graft [CABG] or percutaneous coronary intervention (PCI) history, or peripheral vascular disease] and low-risk group. High-risk group (n = 412) underwent exercise stress echocardiography (ESE). Primary outcome was incidence of coronary revascularization, including PCI or CABG during follow up period.

Results: Mean age was 51.9±11.6 years and 29.1% had diabetes. High-risk patients had more coronary revascularization than low risk patients [6.8% (28/412) vs. 3.5% (32/903), p = 0.013]. Among high-risk patients with ESE, ESE-positive patients had significantly more events compared to ESE-negative or incomplete patients [44.0% (11/25) vs. 2.3% (3/129) vs. 5.4% (14/258), p < 0.001]. However, there was no statistical difference between the ESE-negative patients and ESE-incomplete patients.

Conclusions: Our protocol using ESE for CAD risk evaluation was effective in identifying patients with requiring coronary revascularization in high-risk patients during pre-kidney transplantation work-up. However, alternative modalities are required for ESE-incomplete patients.