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이식신 동맥 협착 진단에서 3D-CT angiography의 유용성

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Usefulness of 3-dimension Computed Tomography Angiography as a Non-Invasive Screening Procedure Transplant Renal Artery Stenosis

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Background: The aim of this study is to evaluate whether 3D-CTA is useful to detect transplant renal artery stenosis (TRAS).

Methods: Renal transplant recipients who showed uncontrolled hypertension (n=13) or graft dysfunction (n=2) were included in this study. These patients received color doppler ultrasonography (CDU) or 3D-CTA ahead of renal angiography. A usefulness and safety of 3D-CTA was compared to CDU on the basis of renal angiography.

Results: Out of 15 patients, nine patients showed significant stenosis (>50% luminal narrowing) in renal angiography. 3D-CTA detected all of the stenosis (9/9) and the results of 3D-CTA were significantly correlated with those of renal angiography (p=0.02). However, CDU failed to detect significant stenosis in 3 patients (3/9). Two of them had TRAS with end-to-side (ES) arterial anastomosis. Contrast induced nephropathy following 3D-CTA was not reported. All nine TRAS recipients were treated successfully by percutaneous transluminal renal angioplasty (PTA), and allograft function (70±13.9 vs. 80±11.0 ml/min/1.73m^2, p=0.028) and hypertension (mean arterial pressure, 111±10.1 vs 98±7.0, p=0.011) significantly improved after PTA.

Conclusion: The 3D-CTA is useful method to screen the renal artery stenosis in renal transplant recipients.

Key Words: 3D-CTA, 이식신 동맥 협착증, 고혈압
3D-CTA, Transplant renal artery stenosis, Hypertension