

말기신부전 환자에서 dual-source 64 다검출기 CT의 관상동맥 질환 진단 정확도

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Diagnostic Accuracy of Dual-Source 64-slice Multidetector CT Coronary Angiography for the Evaluation of Coronary Artery Disease in Patient with ESRD

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Background: Invasive coronary angiography remains the gold standard in the diagnosis of coronary artery disease. However, multidetector CT (MDCT) coronary angiography is an emerging technique that is available for the non-invasive detection of coronary artery stenoses. Few studies about diagnostic accuracy of MDCT for coronary artery disease in patients with end stage renal disease (ESRD) were performed. So we investigate the diagnostic accuracy of non-invasive dual-source 64-slice MDCT for coronary artery disease in patients with ESRD.

Methods: 24 patients (11 males and 13 females; mean age, 59.1 ± 9.5 years) undergoing conventional coronary angiography were included in this study. All segments of coronary arteries based on the American College of Cardiology/American Heart Association classification system, were analyzed for the presence of significant stenosis ($\geq 50\%$ diameter stenosis) and compared with of the quantitative coronary angiographic findings.

Results: 360 coronary artery segments were assessed quantitatively by both dual-source 64-slice MDCT and conventional coronary angiography. 138 significant stenoses were detected by conventional coronary angiography. On a segment-based analysis, the sensitivity, specificity, and positive and negative predictive values of 64-slice MDCT were 96, 100, 100, and 50%, respectively. The corresponding values obtained on a patient-based analysis were 96, 100, 100, and 50%, respectively.

Conclusions: This study demonstrated that dual-source 64-slice MDCT coronary angiography is of similar accuracy as conventional coronary angiography for the detection of coronary artery disease. In patients with ESRD, dual-source 64-slice MDCT may replace the more invasive coronary angiography.

Key Words: 말기신부전, 전산화 단층촬영, 관상동맥 조영술
ESRD, Computed tomography,
Coronary angiography

Table 1. Diagnostic Accuracy of Dual-source 64-slice Multidetector Computed Tomography Compared to Conventional Coronary Angiography for Detection of Significant Coronary Stenoses in Patients with ESRD

	N	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
All segments	360	96	100	100	50
LM	24	67	95	67	95
LAD	120	80	95	89	90
Prox	24	82	85	82	85
Mid	24	100	100	100	100
Distal	24	56	100	100	79
D1	24	50	90	50	90
D2	24	0	100	0	100
LCX	96	92	81	65	97
Prox	24	100	64	67	100
Distal	24	85	73	79	80
OM	24	100	82	33	100
RI	24	100	96	50	100
RCA	120	92	76	73	93
Prox	24	88	63	82	71
Mid	24	91	54	63	88
Distal	24	100	69	62	100
PDA	24	100	94	88	100
PL	24	86	88	75	94

LM, left main coronary artery; LAD, left anterior descending coronary artery; D1, first diagonal branch; D2, second diagonal branch; LCX, left circumflex artery; OM, obtuse marginal branch; RI, ramus intermedius; RCA, right coronary artery; PDA, posterior descending artery; PL, posterolateral artery