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The Transradial Coronary Interventions Do Not Influence the Diameter of Radial Artery Measured by Quantitative Artery Analysis Six Months Later

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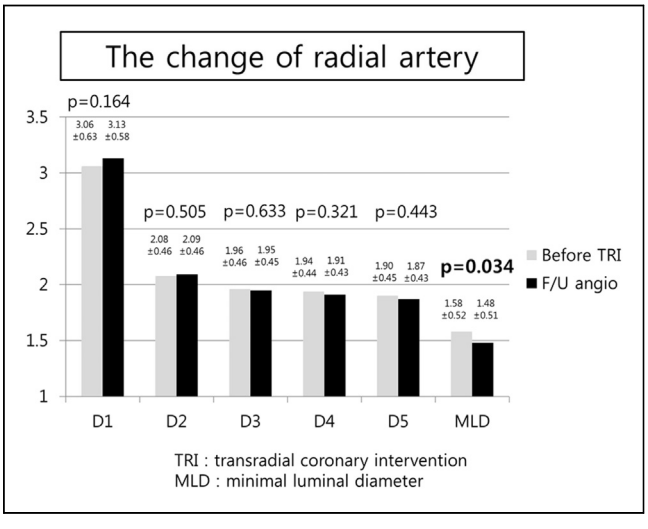
BACKGROUND The radial artery is currently regarded as a useful vascular access site for coronary procedures. But there is no known impact of transradial coronary intervention (TRI) regarding the change of radial artery diameter. There were no published data regarding the change of radial artery diameter by quantitative artery analysis after the TRI.

METHODS From June 2009 to September 2012, consecutive patients underwent TRI and follow-up coronary angiography (FUCA) after TRI were enrolled. Retrograde radial artery angiography was performed before TRI in all patients. We analyzed the radial images of initial angiography and FUCA. We divided radial artery from an elbow to sheath tip into 5 parts (D1, D2, D3, D4 and D5) and analyzed radial artery diameter and minimal luminal diameter (MLD). The primary endpoint was the changes of radial artery diameter after TRI.

RESULTS Among total 613 patients underwent FUCA, 103 patients underwent FUCA via other site (femoral artery or opposite radial artery) and 189 patients had no images of radial artery or the difficulty to analysis due to poor images. Finally, total 321 patients underwent FUCA via same site were analyzed. Before TRI, initial MLD1 was 1.58±0.52 and diameters were 3.06±0.63, 2.08±0.46, 1.96±0.46, 1.94±0.44 and 1.90±0.45 (D11, D12, D13, D14 and D15). MLD2 of FUCA was 1.48±0.51 and diameters were 3.13±0.58, 2.09±0.46, 1.95±0.45, 1.91±0.43 and 1.87±0.43 (D21, D22, D23, D24 and D25). The changes of radial artery size were not significant statistically. ($p>0.05$) But the change of MLD was statistically significant. (MLD1 vs. MLD2 $p=0.034$).

CONCLUSION Although the minimal luminal diameter has shown a significant difference, the five measurements taken seem to support the idea that transradial interventions do not affect the radial artery size and the statistically significant difference was only 0.1 mm.



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Impella Support Improved Outcomes in Cardiogenic Shock, However STS Mortality and Low EF Predict Survival

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BACKGROUND Despite marked advances of revascularization, acute myocardial infarction (MI) remains a major cause of mortality. There is a greater than 50% mortality among patients presenting with acute myocardial infarction and cardiogenic shock (AMI-CS). We aim to determine if there are predictors to mortality in AMI-CS even when treated with Impella LVAD support.

METHODS Retrospective study of 52 patients treated with Impella 2.5 OR Impella CP was collected (Jan 2011 to Jan 2015). Baseline demographics were obtained. Unadjusted and adjusted analyses were performed to determine if there was an association with mortality by quantifying STS scores, ejection fraction (EF).

RESULTS The use of Impella support in AMI-CS resulted in a mortality of 29%, significantly better than reported in previous studies. However, among patients who died from AMI-CS within 30 days of hospitalization, STS mortality over 10%, Morbidity and EF were all significantly worse (Table 1).

CONCLUSION Impella LVAD support improves outcomes in AMI-CS patients undergoing PCI, with a significantly improved mortality than previously reported. Predictors of mortality in AMI-CS were found to be STS Mortality Score > 10% and EF <20%. Further data is needed to determine optimal treatment to improve mortality in AMI-CS.

Table 1a: Demographics and unadjusted analysis:

Variable	Patient death 30 days post op(n=18)	Patient alive 30 days post op(n=44)	P value
Age(years)	65.33+14.025	65.50+12.67	0.964
BMI(kg/m²)	25.91+5.16	28.58+5.40	0.078
Hypertension(n)	15(83.3%)	42(95.45%)	0.228
Renal insufficiency(n)	3(16.67%)	9(20.45%)	0.765
DM(n)	9(50%)	23(52.27%)	0.938
Smoker(n)	6(33.33%)	23(52.27%)	0.273
PVD(n)	0(0.00%)	2(4.54%)	0.385
Dyslipidemia(n)	9(50%)	26(59.09%)	0.737
Liver insufficiency(n)	0(0.00%)	1(2.27%)	0.543
COPD(n)	3(16.67%)	3(6.81%)	0.228
MI(n)	6(33.33%)	8(18.18%)	0.185
Dysrhythmia(n)	0(0.00%)	3(6.81%)	0.283
Cerebrovascular disease(n)	0(0.00%)	1(2.27%)	0.543
Angina(n)	3(16.67%)	4(9.09%)	0.383
CAD(n)	10(55.55%)	25(56.81%)	0.821
CHF(n)	6(33.33%)	16(36.36%)	0.870
Valvular disease(n)	0(0.00%)	2(4.54%)	0.385
Cardiomyopathy(n)	2(11.11%)	9(20.45%)	0.409
CABG(n)	3(16.67%)	5(11.36%)	0.557
PCI(n)	9(50%)	9(20.45%)	0.017
AICD/pacemaker(n)	1(5.55%)	1(2.27%)	0.503
Shock(n)	15(83.33%)	10(22.72%)	0.000
LM stenosis(n)	4(22.22%)	14(31.81%)	0.961
Multi-vessel disease(n)	7(61.11%)	27(61.36%)	0.635
Pre procedure EF (%)	22.60+14.76	26.44+12.30	0.323
STS mortality >10%	11(61.11%)	11(25%)	0.005
STS morbidity	61.16+18.46	38.59+19.49	0.000
EF <20%	9(50%)	12(27.27%)	0.019

Table 1b: Multivariate and adjusted analysis:

Variable	P value
EF <20%	0.006
STS mortality >10%	0.026