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THE COMPARABLE EFFECT OF LIFESTYLE AND PHARMACOLOGICAL INTERVENTION TO PREVENT CORONARY ATHEROSCLEROSIS IN JAPANESE EARLY-STAGE DIABETIC PATIENTS - THE DIABETES AND DIFFUSE CORONARY NARROWING (DIANA) STUDY

ACC Poster Contributions

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Background: Life-style (LI) or pharmacological intervention is effective for prevention of early stage diabetes mellitus (DM), which is characterized as postprandial hyperglycemia (PPG). However, it remains unknown whether these interventions may prevent the progression of coronary artery diseases (CAD).

Methods: The DIANA study is a prospective randomized open-label multi-center trial. A total of 302 patients with both CAD and impaired glucose tolerance (IGT) or DM and HbA1c<6.5% were randomly assigned to LI (n=101), Voglibose (n=100) or Nateglinide (n=101). Quantitative coronary angiography (QCA) and 75g-OGTT were reevaluated one-year after randomization. Diameters of middle section in each major coronary segment were averaged to determine vessel diameter. We defined segments of a diameter<1.5mm as diseased lesions, and determined total and averaged lesion length.

Results: Voglibose increased the number of normal glucose tolerance, while Nateglinide reduced HbA1c level. Other metabolic profiles including PPG, HbA1c, insulin sensitivity and adiponectin were changed similarly at one year. The significant progression of coronary atherosclerosis could not be observed in LI group and this efficacy was comparable with other two groups (Table). The incidence of adverse events was similar between Voglibose and Nateglinide groups.

Conclusions: In Japanese early stage diabetic patients with CAD, LI had favorable impacts on coronary atherosclerosis equivalent to pharmacological therapies.

Table. The Changes in QCA Parameters

	Life-style Intervention	Voglibose	Nateglinide	difference between pre and one-year	difference between pre and one-year
				Voglibose - LI	Nateglinide - LI
	pre / one-year	pre / one-year	pre / one-year	estimate (95% CI)	estimate (95% CI)
Averaged Vessel Diameter (mm)	2.80±0.35 / 2.78±0.34	2.83±0.36 / 2.80±0.35	2.83±0.37 / 2.80±0.39	-0.01(-0.05 - 0.02) P=0.550	-0.01(-0.04 - 0.02) P=0.598
Total Lesion Length (mm)	13.19±13.11 / 12.31±10.96	12.70±11.61 / 12.85±9.98	14.52±13.73 / 14.07±14.36	0.17 (-1.36 - 1.71) P=0.822	-0.23(-1.75 - 1.28) P=0.760
Averaged Lesion Length (mm)	6.06±3.61 / 6.05±3.70	6.27±4.48 / 6.56±4.50	6.96±4.33 / 6.80±4.75	-0.07 (-0.65 - 0.70) P=0.863	-0.36 (-0.97 - 0.24) P=0.239

LI : life-style intervention, QCA : quantitative coronary angiography