

FMD is useful for screening asymptomatic coronary artery disease in diabetic patients



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The center is staffed with cardiologists, cardiovascular surgeons, radiologists including angiography, physiology, outpatient, ICU (intensive care unit), HCU (high care unit), hospital wards, clinical engineers, cardiac rehabilitation, surgery, anesthesiology, nutrition, and many other departments and staffs cooperate and collaborate in the treatment.

Significantly lower FMD in CAD group

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Diabetes is an important risk factor for coronary artery disease. Its screening is important because it frequently produces myocardial ischemia asymptotically.

One cause of myocardial ischemia is atherosclerosis of the coronary arteries. Although there are several types of atherosclerosis tests, the earliest stage of atherosclerosis results in a decrease in vascular endothelial function, leading to decreased nitric oxide (NO) production and abnormal secretion of vasoactive substances, leading to the formation and development of atherosclerotic lesions.

Therefore, we considered at our hospital that the FMD test that evaluates vascular endothelial function may be a useful test to screen for asymptomatic coronary artery disease, and therefore studied 35 diabetic patients who had FMD measured and who underwent cardiac CT for screening purposes (excluding those with a history of invasive treatment for coronary artery disease).

The CAD group (25 patients) shown significant stenosis (>50%) in one or more branches on cardiac CT and the NCAD group (10 patients) were compared with patients' background, blood test results, radiology and lab tests. We found that BMI, ABI, triglycerides, and FMD were significantly different between the CAD and NCAD groups. (Figure 1)

Stepwise logistic regression analysis showed that FMD and triglycerides were independent factors that determine coronary artery disease. (Table 1)

These results suggest that FMD measurement is useful for screening asymptomatic coronary artery disease in diabetic patients. Although further studies are needed, we will continue to perform the FMD test as one of the screening methods for coronary artery disease in diabetic patients in our hospital.

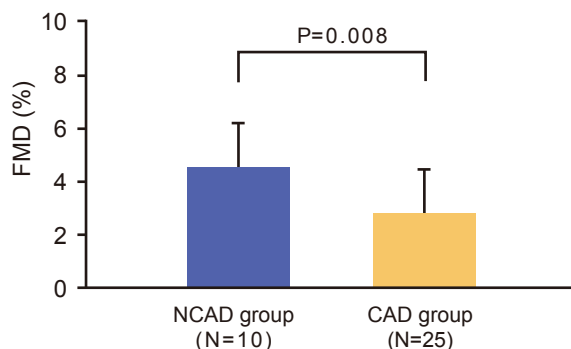


Figure 1
Comparison of FMD values between CAD and NCAD groups

Table 1 Stepwise logistic regression analysis results

	OR: unit	95%CI	P
FMD(%)	0.176	0.0164 -0.6073	0.0451
Triglycerides (mg/dL)	1.071	1.026 -1.171	0.0234
ABI (minimum side)	1.549e-13	14224.95 -4.92e+32	0.0598