

ows compared with findings on coronary angiography (CAG), MRI, and intravascular ultrasound.

RESULTS: Linear shadows were detected in 11 CALs on high-resolution 2DE in 9 patients with Kawasaki disease. The outer diameters of CALs on 2DE (7.0 ± 2.1 mm) were larger than those on CAG (4.4 ± 1.6 mm), whereas the inner diameters between linear shadows (3.9 ± 1.6 mm) were almost equal to the diameters of CALs on CAG. There was a statistically significant positive correlation ($y = 0.99x - 0.10$; $r^2 = 0.77$) between the diameters of CALs on CAG and the inner diameters between linear shadows on 2DE. A thickened intima was revealed in the same regions that showed linear shadows on 2DE, in 7 of 11 lesions on MRI, and in all 4 lesions on which intravascular ultrasound was performed. In 3 patients who had been followed up over 3 years, linear shadows inside CALs on 2DE persisted, and the diameter between linear shadows was almost consistent with the diameter of CALs on CAG.

CONCLUSIONS: These results suggest that linear shadows inside CALs on 2DE would reflect the existence of a thickened intima. We expected that following up the changes of linear shadows inside CALs was useful for noninvasive evaluation of coronary arterial remodeling such as intimal hypertrophy or stenotic change.

LONG-TERM FOLLOW-UP RESULTS OF PERCUTANEOUS CATHETER INTERVENTION FOR CORONARY ARTERY LESIONS AFTER KAWASAKI DISEASE: MULTICENTER COLLABORATIVE STUDY

Submitted by Masahiro Ishii

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INTRODUCTION: The long-term prognosis in patients with Kawasaki disease (KD) after percutaneous coronary intervention (PCI) remains unclear.

OBJECTIVE: We sought to clarify the long-term results of PCI for KD.

METHODS: Patients who developed coronary stenotic lesions caused by KD and were treated with PCI were investigated. Restenosis or obstruction was diagnosed when the stenosis was $\geq 75\%$ according to coronary angiography or ischemic change was observed by myocardial perfusion imaging.

RESULTS: A total of 55 stenotic lesions were reported in 49 patients in 5 institutions. The types of PCI included percutaneous transluminal coronary angioplasty ($n = 22$), stent implantation ($n = 7$), percutaneous transluminal coronary rotational ablation (PTCRA) ($n = 22$),

and combination of PTCRA with stent implantation ($n = 4$). Median age at PCI was 14.5 years, and the median follow-up period in the PCI group was 6.3 years. Of 55 stenotic lesions in the PCI group, 52 (95%) were dilated successfully by PCI. Immediate complications in the PCI group included neoaneurysm in 5 patients, transient bradycardia in 3 patients, and atrial fibrillation in 1 patient. Treatment for restenosis in the PCI group included re-PCI in 3 patients, coronary artery bypass grafting in 6 patients, and heart transplantation in 1 patient. No patient in the PCI group died. There was no difference in effectiveness among the 3 PCI devices (percutaneous transluminal coronary angioplasty versus stent implantation versus PTCRA: log-rank test, $P = .3$).

CONCLUSIONS: PCI for KD can be accomplished and can be effective in the long-term.

EXPOSURE TO TOBACCO SMOKE DECREASES ELASTICITY OF THE AORTA IN CHILDREN

Submitted by Katariina Kallio

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INTRODUCTION: Attenuated arterial elasticity is one of the earliest markers of atherosclerosis.

OBJECTIVE: Our aim was to investigate the relationship of passive smoking and elastic properties of the aorta.

METHODS: We studied 11-year-old healthy children ($n = 386$) from the randomized, prospective atherosclerosis prevention trial (STRIP). Aortic elasticity was analyzed by using M-mode ultrasound imaging on the basis of the measurement of blood pressure and arterial diameter changes during diastole and systole. Aortic compliance (AC) and aortic stiffness index (SI) were calculated. Exposure to tobacco smoke was measured by using serum cotinine concentration, which was analyzed with gas chromatography.

RESULTS: Cotinine concentrations ranged from nondetectable (detection limit: 0.16 ng/mL) to 6.8 ng/mL. Cotinine values and aortic elasticity measures were similar between genders. Children were classified into 3 groups according to their cotinine concentration: the top-decile cotinine group ($n = 39$), the nondetectable cotinine group ($n = 220$), and the low cotinine group ($n = 127$). Conventional atherosclerosis risk factors were similar between the 3 cotinine groups. A decreasing trend in AC ($P = .041$) and an increasing trend in SI ($P = .006$) was observed across the cotinine groups with an

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