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**Correlation between New Vascular Index, API/AVI and Coronary Atherosclerotic Lesion**

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Background: It is important to detect arteriosclerosis earlier and treat appropriately to prevent future cardiovascular event. Both AVI and API are new index for blood vessel and pressure which is measured by application of cuff oscillometric technology. Previous our analyses showed AVI is significantly correlated with AI which reflects central arterial pressure, and API is significantly correlated with FCVRS and Suita score. (Nakashima R, et al. Journal of Cardiology, 2016)

Methods: We measured AVI and API to patients consecutively who were admitted to our hospital to take cardiac catheter test or interventional treatment. (N=139, mean age 68.8±15.3) AVI and API were measured twice at supine position at the day cardiac catheter test or treatment were performed. We examined correlations between AVI, API and coronary lesion and analyzed statistically by retrospectively cross-sectional manner.

Results: Mean AVI was 32.9±11.6, API was 31.9±9.1, respectively. Both AVI and API were significantly higher in patients who had more <75% stenosis according to the AHA classification (n=94) than those who did not have. (n=27, AVI:35.1±11.0 vs 30.5±10.1, p<0.05, API 33.0±9.5 vs 29.6±7.7, p<0.05, respectively) The numbers of stenotic lesion were increased according to the elevation of AVI, API. (p<0.05) Conclusions: AVI and API might be useful to detect coronary atherosclerotic lesion earlier which need to be treated. Both AVI and API might be correlated with severity of coronary lesion.

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