



## Letter to the Editor

# Response to Letter to the Editor “Arterial Stiffness Measurement in Metabolic Syndrome Patients”

Dear Dr. Alizargar and Editor,

Thank you very much for your interest in our article and also for your pertinent remarks.

We can respond on three points.

First, we are aware of the influence of Blood Pressure (BP) on Pulse Wave Velocity (PWV). Apart from age, this is the most prominent factor influencing arterial stiffness – PWV (as we previously reported in [1]).

Second, we took into account blood pressure (the prevalence of hypertension being increased in T786C gene polymorphism: CC or CT state vs. TT patients –  $p = 0.0134$  – we reported data into the article). We had an imbalance of BP values between CC/CT and TT genotypes, which could partly explain the imbalance of PWV. Therefore, we studied the relationship between Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP), Mean Blood Pressure (MBP) at the time of measurement, PWV, and genetic polymorphism. No significant differences were found between CC vs. CT vs. TT groups regarding MBP, SBP or DBP. Also, using regression, after adjustment for MBP, the difference of PWV between genotypes remained significant.

Third, the Cardio-Ankle Vascular Index (CAVI) is an index of the overall stiffness of the artery [3]. However, the true pressure independence of CAVI has never been fully established, and further adjustment for BP is still needed. As it is known, CAVI is calculated using the heart-ankle PWV [3]. We used TensioMed™ Arteriograph (Budapest, Hungary) to measure aortic PWV. For the measurement of CAVI, previous studies [3] have reported the use of another device (for example Vasera 1500 N Fukuda-Denshi, Japan), which was not available to us at that moment.

Altogether, CC/CT polymorphism of the endothelial nitric oxide synthase gene was associated with BP. Taking BP into account

in the analysis did not change the overall result. Using true BP independent methods such as ultrafast echo would help, whereas methods relying on models do not solve the issue better than statistical adjustment [4,5].

## CONFLICTS OF INTEREST

The authors declare they have no conflicts of interest.

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