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The perturbation of brachial blood flow by ultrasonographic to cause an impact on endothelial function in smokers. However, a measurement of hyperemia using Flow Mediated Dilatation (FMD) method was a valid method in the measurement of vascular dysfunction in the conduit artery. This method has been intensively used to measure the cardiovascular risk for many decades [1], and has provided plenty of evidence of systemic endothelial dysfunction in many disease conditions including hypertension [3] and diabetes [4].

Endothelial dysfunction occurs when healthy endothelium loses its ability to maintain vascular homeostasis in response to risk factors resulting in vasoconstriction, thrombosis and vascular smooth muscle cell proliferation. Nitric Oxide (NO) is the main vasodilator secreted by the endothelium. It is synthesized from L-arginine by endothelial Nitric Oxide Synthase (eNOS) in the presence of cofactors including tetrahydrobiopterin, resulting in the production of NO and L-Citrulline. NO then diffuses into the vascular smooth muscle cells, activating guanylate cyclase, leading to an increased production of cyclic guanosine monophosphate and a decrease of intracellular calcium. Numerous studies have consistently reported that Statins can improve endothelial function by reducing the expression of inflammatory cytokines and growth factors, inhibits angiotensin II induced oxidative stress and enhances activity of endothelial NOS, thereby increasing NO bioavailability. However, the evidence reported from the use of antioxidants is conflicting. Vitamin C has been proven

To sum up, the validity and accuracy of the detection of endothelial dysfunction and new cardiovascular risk markers are extremely important to prevent the early onset of cardiovascular disease, and ease the heavy financial burden to the patients, hospital and society.

### References

Thijssen DHJ, Black MA, Pyke KE, Padilla J, Atkinson G, et al. (2011) \$VVHVVP HQW RI ARZ PHGLDWHG GLODWLRQ LQ K SK\VLRRRJLFDO JXLGHOLQH \$P - 3K\VLRO +H DUW & )ODPPHUS\$GHUVRQ 7 &HOHUPDMHU '6 &UHDJHU ( 7KH DVVHVVP HQW RI HQGRWKHOLD O IXQFWL SUDFWLFH &LUFXODWLRQ :RQJ :7:RQJ 6/ 7LDQ ;< +XDQJ < (QGRWKH 7KH &RPPRQ &RQVHTXH QFH LQ 'LDEHWHV DQG + &DUGLRYDVFXODU 3KDUPDFRORJ\ &KDQ :&KDQ 11 /DL &: 6R :< /R O.: HW DO EH\RQG WKH HQGRWKHOLXP LQ W\SH ,, GLDEHWLF : PRGHUWH UHQDO LQVXI¿FLHQF\ .LGQH\ ,QW

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