

## **Vascular aging and metabolic syndrome:**

### **The KASS Study**

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Our society is getting aged. This is particularly true in Asia. Aging exerts a corresponding elevation in the BP and so a number of deleterious changes in the cardiovascular (CV) system, and, in particular, on the large arteries. This linearly increased arterial stiffness and systolic hypertension make the hypertension control difficult. The other key changes are that our society is rapidly being westernized, and so has been affecting adversely on changes in lifestyle, which may have increased the risk of obesity, dyslipidemia and metabolic syndrome. The dramatic rise of obesity will result in the explosive increase of diabetes. Aging is also associated with metabolic syndrome, vascular dysfunction, and obesity, all of which accelerate pandemic risk of CV disease. In the Korean Vascular Research Working Group, we have done a clinical study, named the Korean Arterial Aging Study (KAAS). The aim of this study was to determine the effect of aging on augmentation index (AIx) and aortic pulse wave velocity (PWV) in apparently healthy individuals with or without CV risk factors. Our major new findings were that the extent of the hemodynamic patterns, shown in healthy normotensive subjects, remained consistent irrespective of the presence of CV risk factors, but the pattern was different depending on its risk factor. We also found differential effect of vascular aging between genders and between with metabolic syndrome and without. Therefore, the conglomerate of risk factors and aging may result in sub-clinical and clinical disease that will eventually surface in an Asian CV crisis. Particularly aging enhances

metabolic derangement and the progression of vascular dysfunction. The concerted efforts should be made towards awareness promotion of vascular aging and metabolic changes in the society we are living.