

## Effect of hypertension for the diastolic function of lone atrial fibrillation

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**Background/Aims:** LV diastolic dysfunction is a well-known risk factor for development of atrial fibrillation and it can worsen the prognosis of atrial fibrillation. Hypertension is closely associated with diastolic dysfunction. We analyzed effect of hypertension on diastolic dysfunction in patients with lone atrial fibrillation.

**Methods:** 244 consecutive patients since October 2015 in Nowon Eulji medical center, Seoul, Korea with atrial fibrillation without definite cause such as valvular heart disease, systolic dysfunction (LV ejection fraction <50%), and ischemic heart disease were analyzed.

**Results:** Mean age was  $70.4 \pm 10.4$  years and female was 31.1%. 70.1% (n=171) has hypertension and 36.5% of patients has diabetes. Mean LV ejection fraction(EF) was  $62.9 \pm 9\%$ . E/e' value was  $13.1 \pm 6$ . LV mass index was  $112.7 \pm 26.1 \text{ g/m}^2$ , and tricuspid annular plane systolic excursion (TAPSE) was  $18.0 \pm 2.6 \text{ mm}$ . Age was older ( $72.1 \pm 9.4$  vs.  $66.4 \pm 11.6$  p<0.01) in hypertensive patients. Hypertension was more prevalent in female. (84.2% vs. 63.7%, p<0.01). LV mass index, LA volume index, and E/e' values were significantly higher in hypertensive patients. ( $116.6 \pm 27.3$  vs.  $103.5 \pm 20.2 \text{ g/m}^2$  p<0.01,  $45.1 \pm 12.2$  vs.  $40.8 \pm 10.3 \text{ mm}^3/\text{m}^2$  p<0.01,  $13.8 \pm 5.5$  vs.  $11.5 \pm 9.0$  p<0.05). However, TAPSE was not significantly different. ( $17.9 \pm 2.6$  vs.  $18.1 \pm 2.5$  p=NS)

**Conclusions:** Hypertension is associated with LV diastolic dysfunction and increased filling pressure and not with right ventricular dysfunction.

