

Understanding CENTRAL BP: Pathological Significant and Evidences

TAUFIK MESIANO

INASH MEETING
27 FEBRUARY 2020

Central Blood Pressure vs Brachial BP

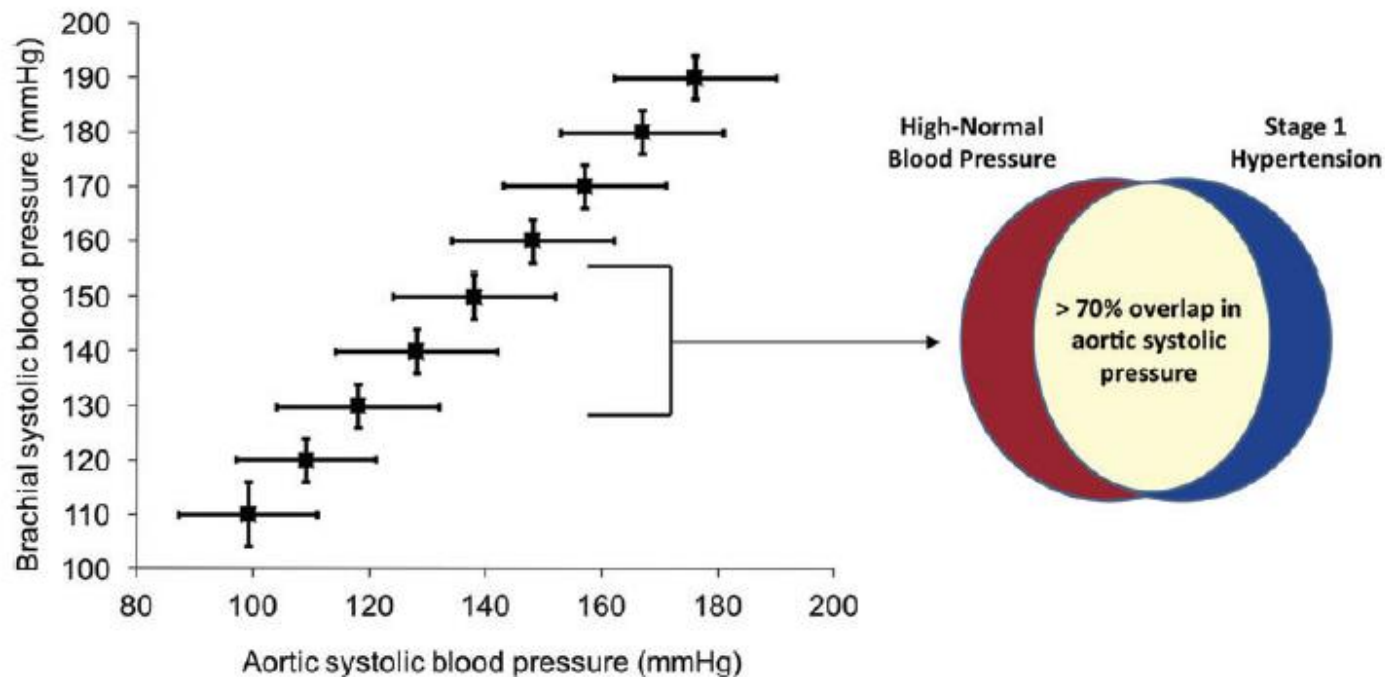


Figure 3 Overlap in aortic systolic blood pressure despite no overlap in brachial systolic pressure, in healthy men and women ($n = 5648$). Over 70% of individuals with high-normal blood pressure had aortic systolic pressures in common with individuals with stage 1 hypertension.²⁸

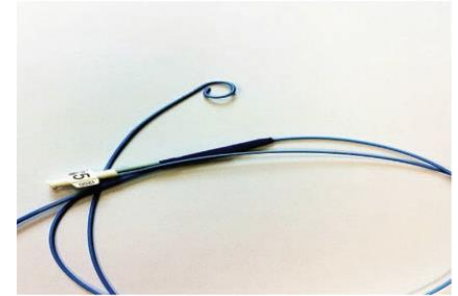
Cuff based oscillometry of brachial artery



Applanation of the radial artery



Invasive Cardiac catheterization



Direct applanation Tonometry of Carotid Artery

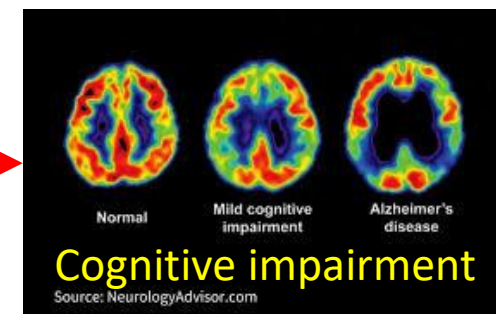
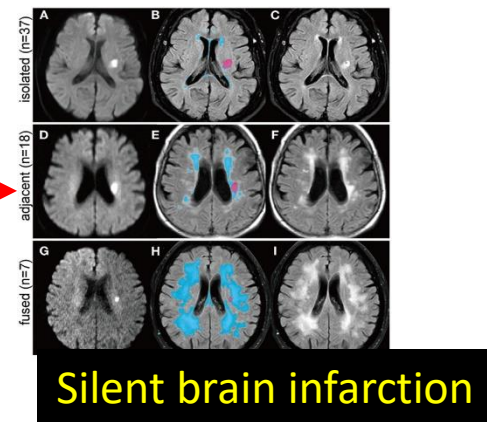
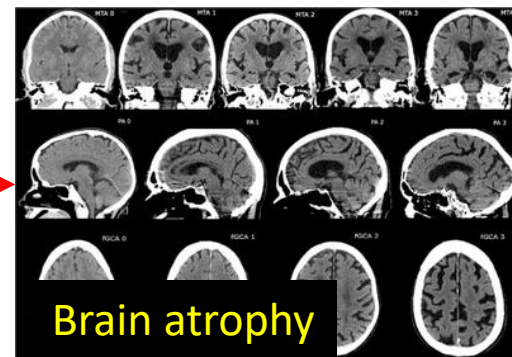
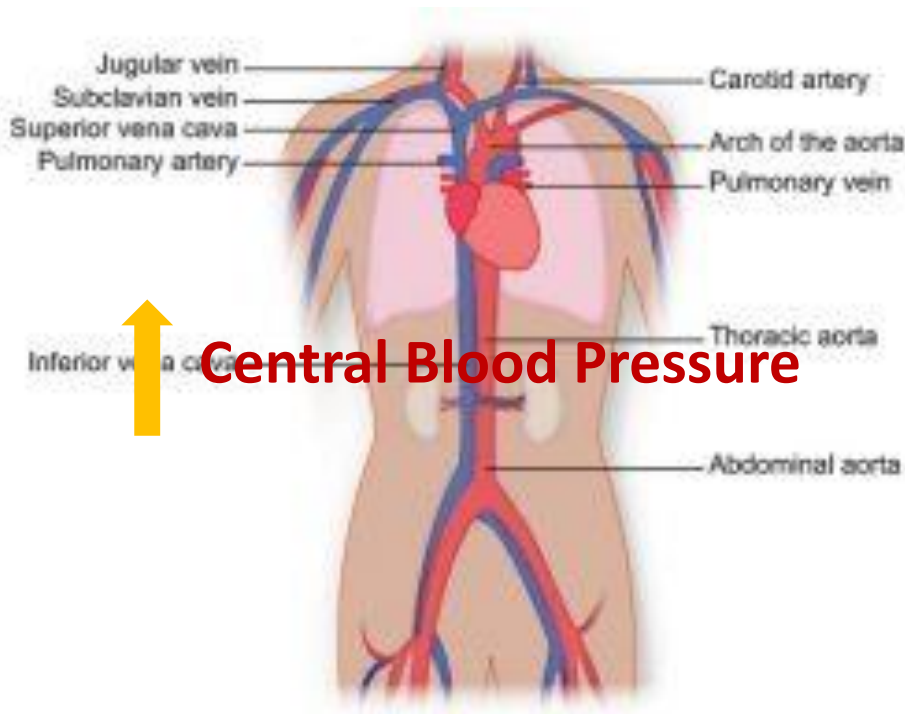
How to measure Central BP

McEnery CM et al. Central blood pressure : current evidence and clinical importance. European Heart Journal (2014) 35, 1719-1725

Pathological Significant and Evidences

CBP and CV risk

- Cohort Studies



Pathological Significant and Evidences

Antihypertension agent act to CBP

Comparative effect of anti-hypertensive drugs and nitrates on central systolic pressure

Class	Central systolic pressure
ACE inhibitors	↓
Angiotensin receptor blocker	↓ ↔
Beta-blockers	↑↑
Calcium channel blockers	↓ ↔
Diuretics	↔
Nitrates	↓↓

McEniery CM et al. Central blood pressure : current evidence and clinical importance. *European Heart Journal* (2014) 35, 1719-1725

CHENG et al. Central blood pressure for the management of hypertension: Is it a practical clinical tool in current practice?. *J Clin Hypertens.* 2020;22:391–406.

Conclusion

- Future perspective on the use of Central BP to manage hypertension
 - Pathophysiology evidence of CBP is promising
 - Inaccurate noninvasive BP measurement technique still need improvement
 - Device of noninvasive BP measurement restricted in research
 - Inconsistent superiority of CBP- Future studies still needed