years. To evaluate cumulative risk burden throughout childhood or adulthood, the growth curve of BMI and BP for each individual were constructed using a mixed-effects model by SAS PROC MIXED within both childhood and adulthood. The area under the growth curve (AUC) was calculated by using an integral calculus formula to characterize the overall BMI and BP levels throughout childhood and adulthood.

RESULTS The tracking coefficient between childhood AUC and adult AUC of BMI (r =0.635, P <0.001) was greater than between initial childhood level and last adult level of BMI(r =0.575, P <0.001). After adjusting sex and age at final adulthood, BMI at initial childhood, at final childhood, as childhood AUC, and as adult AUC were all associated with high cfPWV, high cIMT, and high LVMI at adulthood. After additionally controlling for covariates, four BMI measures still significantly related with high cIMT and high LVMI, but not with high cfPWV at adulthood. Both BMI measured at final adulthood and adulthood AUC were predictive of adult high cIMT and high LVMI, whereas neither BMI measured at finial childhood nor as childhood AUC was associated with adult high cIMT and high LVMI. Subjects who were overweight in adulthood, irrespective of their childhood adiposity status, had significantly increased risks of high cIMT and high LVMI.

CONCLUSIONS Childhood adiposity is associated with carotid atherosclerosis and left ventricular hypertrophy at adulthood but not with arterial stiffness. However, reduction in weight from childhood to adulthood could attenuate and even eliminate the risk of subclinical CVD at adulthood.

GW26-e0404
Optimal blood pressure in patients after stroke in rural areas of China

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OBJECTIVES To our knowledge, no publication has estimated the association between average follow-up blood pressure (BP) and the risk of developing adverse events and / or mortality among stroke survivors in rural areas of China. The purpose of this study was to investigate the impact of different BP categories on risk of developing worse outcomes and evaluate the target range of BP in patients after stroke in rural areas of China.

METHODS We performed a post-hoc analysis of 1058 patients with a history of stroke or transient ischemic attack (TIA) from the NCRCHS. The average follow-up systolic blood pressure (SBP) and diastolic blood pressure (DBP) were categorized into 10 mm Hg increments. The primary outcome was a composite of death due to any cause, nonfatal coronary heart disease (CHD) and nonfatal stroke. The secondary outcomes were recurrent stroke, CVD events, CVD mortality, and all-cause mortality, considered separately.

RESULTS The relationship between BP (systolic and diastolic) followed a J- or U-shaped curve with primary and secondary outcomes, with increased event rates at low and high BP values, both unadjusted and after adjustment for baseline confounding variables. The event rates were lowest in SBP of 110-119 mm Hg and DBP of 80-89 mm Hg. After adjusting for baseline covariates, compared with the reference group (SBP 110-119 mm Hg), SBP<110 mm Hg and SBP≥150 mm Hg were significantly associated with an increased risk of primary outcome. For the secondary outcomes, SBP≥140 mm Hg was associated with an increased risk of recurrent stroke and SBP≥160 mm Hg was associated with an increased risk of total CVD events. Both SBP<110 mm Hg and SBP≥170 mm Hg significantly increased the risk of CVD and all-cause mortality. For DBP, compared with the reference group (DBP 80-89 mm Hg), patients with DBP<70 mm Hg or DBP≥90 mm Hg had a significantly increased risk of primary outcome. For the secondary outcomes, DBP≥90 mm Hg significantly increased the risk of both recurrent stroke and total CVD events. DBP<70 mm Hg and DBP≥100 mm Hg were independently associated with an increased risk of CVD mortality. DBP<70 mm Hg and DBP≥90 mm Hg were independently associated with an increased risk of all-cause mortality. Patients with SBP<110 mm Hg or SBP≥140 mm Hg / DBP<70 mm Hg or DBP≥90 mm Hg had significantly and independently increased risk of worse outcomes.

CONCLUSIONS For stroke survivors, a J- or U-shaped curve association exists between BP and the risk of future CVD events and mortality, with lowest event rates in the BP range of 110-119 mm Hg systolic and 80-89 mm Hg diastolic. SBP of 110-139 mm Hg and DBP of 70-89 mm Hg are the appropriate range for patients after stroke in rural areas of China.

GW26-e0701
Arterial stiffness is increased in healthy subjects with a positive family history of hypertension

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OBJECTIVES A positive family history of hypertension is a risk factor for cardiovascular diseases. In the present study, we investigated the value of pulse wave velocity (PWV) in healthy subjects with a positive family history of hypertension.

METHODS 255 healthy subjects (M/F: 75/180) were divided into two groups according to without (group 1) or with (group 2) a positive family history of hypertension. Carotid-femoral pulse wave velocity (CF-PWV) was measured by Complior apparatus.

RESULTS Our results showed that CF-PWV was significantly higher in group 2 than in group 1 (9.87±1.64 vs 9.16±1.44 m/s, p<0.001). The levels of systolic blood pressure (SBP), pulse pressure and mean blood pressure (MAP) were significantly higher in group 1 than in group 2 (all p<0.05). High-density lipoprotein cholesterol (HDL-C) was significant higher in group 1 than in group 2 (1.63±0.41 vs 1.40±0.38 mmol/L, p=0.006). CF-PWV was negatively correlated with HDL-C (r= -0.142, p=0.026) even after adjusting for SBP and pulse pressure (r= -0.137, p=0.033). Multiple linear regressions showed that age, family history, GLU and MAP were independent influencing factors of CF-PWV in the entire study group.

CONCLUSIONS Our present study showed PWV is significantly higher in healthy subjects with a positive family history of hypertension. Family history might play an important role in this process. However, to be able to evaluate the prognostic value of PWV, prospective studies in families with hypertension are needed.

GW26-e3888
Metabolically Healthy Obesity and left ventricular hypertrophy

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OBJECTIVES Obesity is often accompanied by metabolic abnormalities, and both of them are risk factors for cardiovascular diseases. However, a subgroup of obesity which is not accompanied by metabolic abnormalities, also known as metabolically health obesity (MHO), appears to be a lower risk for cardiovascular diseases. As far as we know, no studies verify whether MHO is associated with LVH up to now. Therefore, this cross-sectional study is to investigate whether MHO is significantly associated with LVH first and then clarify which obesity phenotypes and metabolic abnormalities work in association with LVH

METHODS This population-based cross-sectional study of 10,804 participants in rural Liaoning Province during 2012-2013. Obesity and metabolically healthy were defined as BMI≥28 kg/m^2 and not having the metabolic syndrome, respectively. left ventricular hypertrophy (LVH) was defined as left ventricular mass index (LVMI) > 125 g/m^2 in men and > 110 g/m^2 in women

RESULTS There were 10,804 participants evaluated in this cross-sectional study and the prevalence of MHNO, MUNO, MHO and MUO was 38.1% (n=4119), 44.3% (n=4783), 3.7% (n=398) and 13.9% (n=1504), respectively. The total prevalence of LVH was 5.6% and 6.8% in MUNO, 9.0% in MUO, 3.2% in MHNO, 4.3% in MHO. In addition, the prevalence of LVH was significant increased in high blood pressure (7.6%), high WC (7.5%), high glucose level (6.5%), low HDL cholesterol (6.6%) and high triglycerides (7.2%). The relationships of MUO (OR, 2.882; 95%CI, 2.235-3.715, P < 0.001) and MUNO (OR, 1,733; 95%CI, 1.401-2.143, P < 0.001), but not MHO (OR, 1,575; 95%CI, 0.933-2.659, P = 0.089) and MHNO (reference), being associated with LVH. In addition, Among the five metabolic components used in the definition of MetS, high blood pressure (OR, 3.695; 95%CI, 2.732-4.996, P < 0.001) and high WC (OR, 1.515; 95%CI, 1.254-1.831, P < 0.001) were significant associated with LVH. However, high fasting glucose (OR, 0.975; 95%CI, 0.819-1.159, P = 0.772), low HDL cholesterol (OR, 1.183; 95%CI, 0.974-1.435, P = 0.090) and high triglycerides (OR, 1.114; 95% CI, 0.926-1.341, P = 0.252) were not associated with LVH.

CONCLUSIONS The main finding of our study was that with all known risk factors for LVH adjusted, MHO is excluded from, while MUNO and MUO are included in independent risk factors for LHV. More specifically, among metabolic abnormalities, high blood pressure and WC are found to be two major independent risk factors for LVH.