CHARACTERISTICS OF PATIENTS WERE COLLECTED INCLUDING AGE, GENDER, BODY WEIGHT, SMOKING, ALCOHOL DRINKING, SYSTOLIC PRESSURE (SBP), DIASTOLIC PRESSURE (DBP), FASTING GLUCOSE (GLU), TRIGLYCERIDES (TG), HIGH-DENSITY LIPOPROTEIN CHOLESTEROL (HDL-C), TOTAL CHOLESTEROL (TC), HCY AND PAST DISEASES HISTORY. AFTER THE STRATIFICATION OF RISK FACTORS, COMPARISON OF STROKE MORBIDITY IN NORMAL HCY GROUP AND HIGH HCY GROUP RESPECTIVELY. HOWEVER, THE CORRELATION BETWEEN THE STROKE MORBIDITY AND THE RISK FACTORS WAS ANALYZED USING TEST T. HCY VALUES WERE LOG-TRANSFORMED TO NORMALIZE THE DISTRIBUTION, WITH TERTILE LEVELS AS FOLLOWS: <1.09, 1.09-1.23 AND >1.23. WE FURTHER EXAMINED THE DETECTABLE INTERACTION BETWEEN HCY AND STRATIFIED FACTORS ON PREDICTING THE RISK OF STROKE BY ADDING THE HCY × STRATIFIED FACTORS CROSS-PRODUCT TO A LOGISTIC REGRESSION ANALYSIS OF THE HYPERTENSION PARTICIPANTS.

RESULTS IN HHcy GROUP, HYPERTENSION PATIENTS WITH STROKE HAD A SIGNIFICANTLY HIGHER AGE, FASTING GLU, SBP AND DBP LEVEL THAN THAT OF PATIENTS WITHOUT STROKE, AND DIABETES MELLITUS WAS NOTED IN 30.29% OF INDIVIDUALS WITH STROKE COMPARED TO 13.72% WITHOUT STROKE. GRADUAL ELEVATION OF STROKE MORBIDITY WAS IDENTIFIED WITH THE INCREASE OF FASTING GLU, SBP AND DBP, AND THE CORRELATION RANK OF THE THREE RISK FACTORS AND STROKE MORBIDITY WAS AS FOLLOWS: SBP (r = -0.431, P < 0.001) > DBP (r = -0.401, P < 0.001) > GLU (r = -0.125, P = 0.001). IN PATIENTS WITH HYPERTENSION, AN INCREASING LEVEL OF HCY WAS ASSOCIATED WITH HIGHER STROKE RISK IN THE FOLLOWING STRATIFIED FACTORS, INCLUDING AGE RANGE (45-74 YEARS), BMI <25 KG/M2, DBP<110MMHG, TC<150 MG/DL, FASTING GLU RANGE OF 6.1 MMOL/L AND 7.0 MMOL/L, AND FULL SCALE OF SBP AND NON-HDL-C. IN THOSE WITH LOG HCY > 1.23, SBP>180 MMHG GROUP WOULD HAVE FOUND TO HAVE THE HIGHEST RISK OF STROKE (OR 6.240, 95% CI 1.349 TO 7.000) AND CORRELATION RANK OF THE THREE RISK FACTORS (SBP, DBP, GLU) AND HCY LEVEL THAN THAT OF PATIENTS WITHOUT STROKE, AS WOULD THEIR EXPOSURE TO HYPERTENSION AND DIABETES MELLITUS (P<0.05). IN BINARY LOGISTIC REGRESSION ANALYSIS, HYPERTENSION (OR 1.967, 95% CI 1.429 TO 2.709), DIABETES MELLITUS (OR 1.815, 95% CI 1.308 TO 2.518), HIGH SBP (OR 1.037, 95% CI 1.027 TO 1.046) / DBP (OR 1.026, 95% CI 1.011 TO 1.042), ELEVATED HCY (OR 1.016, 95% CI 1.007 TO 1.024), AND DECREASE IN HIGH-DENSITY LIPOPROTEIN CHOLESTEROL (OR 0.963, 95% CI 0.922 TO 0.975) LEVEL EMERGED AS INDEPENDENT PREDICTORS OF STROKE (P<0.05). AN INCREASING LEVEL OF HCY WOULD BE ASSOCIATED WITH HIGHER RISK OF STROKE DUE TO ELEVATED LEVELS OF FASTING GLU (r = 0.161, P < 0.001) AND DBP (r = -0.259, P < 0.001) AND SBP (r = -0.390, P < 0.001) AS THE RISK FACTORS STRATIFICATION. SBP WAS FOUND TO HAVE THE HIGHEST RISK OF STROKE AMONG THE SIGNIFICANTLY INDEPENDENT RISK FACTORS.

CONCLUSIONS Since many vascular risk factors (such as weight, high blood glucose, blood pressure and blood lipids) were potentially modifiable, the magnitude of the effect on comprehensive intervention was not only related to the elimination of the risk factors, but also related to the identification and prevention of the high-risk factors. Hyperhomocysteinemia was an independent risk factor for stroke. Given the prevention of stroke in patients with or without stroke, a rigorous management of the elevated serum homocysteine levels should give our full attention.

GW26-e5359 Clinical Significance of Measuring the Heat Shock Factor-1 in Acute Ischemic Stroke Patient
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OBJECTIVES To investigate the Hsf-1 expression within the first 48 hours from onset in acute ischemic stroke (AIS) patients and its relationship with stroke subtype.

METHODS The expression of Hsf-1 mRNA in PBMC was determined using reverse transcription PCR (RT-PCR) from 62 AIS patients and 31 healthy controls. Patients were classified into subtypes according to TOAST criteria. AIS patients were examined with National Institutes of Health Stroke Scale (NIHSS) on admission and the modified Rankin scale score (mRS) at 3 months after admission. SPSS 13.0 was used for data analysis.

RESULTS There was no significant difference between mild and severe type (p=0.460=0.153 vs 0.399=0.158, P=0.138). Further stratified analysis was used, the mRNA expression of Hsf-1 in PBMC of LAA group was evidently higher than that in SAA group (0.479=0.171 vs 0.354=0.109, P=0.001). Modified Rankin scale score (mRS) at the post-onset 3 months was positively correlated with the expression of Hsf-1 at the post-onset 48 hours (P=0.007).

CONCLUSIONS The changes of Hsf-1 level may reflect the etiological and pathophysiological diversity of AIS. Hsf-1 might play a role in etiological diagnosis of ischemic stroke subtype. The Hsf-1 level within 48 hours after onset could indicate the prognosis in patients with AIS.

GW26-e2258 Stroke incidence in individuals with an elevated plasma homocysteine concentration
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OBJECTIVES Hyperhomocysteinemia (HHcy) was a well-known risk factor for vascular disease, such as peripheral vascular disease, cerebrovascular disease, hypertension, coronary artery disease and deep-vein thrombosis. In this study, we sought to explore the effect of an elevated plasma homocysteine (Hcy) concentration and conventional predisposing factors on stroke incidence.

METHODS A total of 1460 patients with HHcy were enrolled in this study, including 956 (65.74%) stroke cases. The clinical characteristics of 1460 HHcy patients were collected, including age, sex, cigarette smoking, alcohol consumption, blood pressure, blood lipids, fasting glucose, Hcy, and other complicated diseases. Significant independent risk factors for stroke found through a conditional logistic modeling approach. Estimates of relative risks for stroke in patients with HHcy were based on odds ratios (ORs) with their associated 95% confidence intervals (CIs) from logistic regression. Trend analysis was used to perform the correlation between Hcy status and the risk of stroke by spearman’s rho.

RESULTS HHcy patients with stroke had a significantly higher systolic pressure (SBP), diastolic pressure (DBP), fasting glucose (GLU) and Hcy level than that of patients without stroke, as well as their exposure to hypertension and diabetes mellitus (P<0.05). In binary logistic regression analysis, hypertension (OR 1.967, 95% CI 1.429 to 2.709), diabetes mellitus (OR 1.815, 95% CI 1.308 to 2.518), high SBP (OR 1.037, 95% CI 1.027 to 1.046) / DBP (OR 1.026, 95% CI 1.011 to 1.042), elevated Hcy (OR 1.016, 95% CI 1.007 to 1.024), and decrease in high-density lipoprotein cholesterol (OR 0.963, 95% CI 0.922 to 0.975) level emerged as independent predictors of stroke (P<0.05). An increasing level of Hcy was associated with higher stroke risk due to elevated levels of fasting GLU (r = 0.161, P < 0.001) and DBP (r = -0.259, P < 0.001) and SBP (r = -0.390, P < 0.001) as the risk factors stratification. SBP was found to have the highest risk of stroke among the significant independent risk factors.

CONCLUSIONS Since many vascular risk factors (such as weight, high blood glucose, blood pressure and blood lipids) were potentially modifiable, the magnitude of the effect on comprehensive intervention was not only related to the elimination of the risk factors, but also related to the identification and prevention of the high-risk factors. Hyperhomocysteinemia was an independent risk factor for stroke. Given the prevention of stroke in patients with or without stroke, a rigorous management of the elevated serum homocysteine levels should give our full attention.

GW26-e4461 Baicalia prompts migration of neural progenitor cell by stimulating hypoxia-induced astrocyte in vitro
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OBJECTIVES The migration of transplanted neural progenitor cell (NPC) or endogenous NPCs damaged sections in the central nervous system (CNS) is a critical step for NPC therapy. A combination of extracellular signals and microenvironmental conditions is necessary for the migration of NPC. Astrocytes, as the major nonneuronal cells in the brain, can be activated by injuries to express chemoaatractive factors and direct the migration of NPC.

METHODS Astrocyte cell and NPCs were cultured and identified separately, then astrocyte was treated with Baicalin after being exposed to hypoxia for 18h. Cell migration assays were performed with Costar Transwell inserts.

RESULTS Astrocytes treated with 160 µg/ml baicalin and exposed to hypoxia for18h at the same time. Migration assays with transwell the detection of chemotaxis NPC migration after being exposed to hypoxia and baicalin-induced astrocytes increased the migration of NPCs compared to baicalin absence. Real-time RT-PCR assay indicated that mRNA of VEGF and MCP-1 has been upregulated in baicalin in astrocytes exposed to hypoxia and block chemotaxis assay furthermore demonstrated that the high expressions of VEGF and MCP-1 involved in the improvement of the migration of NPCs.

CONCLUSIONS Data in this paper has firstly shown baicalin can increase the chemotactic ability of astrocyte to NPC in vitro under hypoxia condition via upregulation of VEGF and MCP-1 in astrocyte. The results provide supports for exploring a clinical role for baicalin in NPC therapy.