GW25-e1441
A prospective, single-blind, randomized, and multicenter clinical trial of standardized Western therapy alone or combined with traditional Chinese medication staging-differentiation treatment in patients with chronic heart failure: Results of the SECETF-HF
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Objectives: To evaluate the efficacy of standardized western therapy alone and combined with traditional Chinese medication staging-differentiation treatment in patients with chronic heart failure (CHF).

Methods: In total, 340 CHF patients aged 40–79 years were randomized into control or treatment groups on admission. The trial included three periods of intervention and continuous observation and evaluation. During the hospitalization, the control group received standard medication plus a polarized solution. Patients in the treatment group also received a Shenfu injection for qi-yin deficiency or a Shenmai injection for qi-yin deficiency along with a Danhong injection. After the discharge, all patients were continually treated with standardized medication. The study drugs (Qilijianyuang for qi-yin deficiency and Buyiqiangxin tablets for qi-yin deficiency) or a placebo for 6 months. After 6 months, both groups received the standard medication alone.

Results: On discharge, the treatment group showed greater improvement in the six-minute walk test (6MWT; P < 0.05) compared with the control group. After 12 months of follow-up, there was a time-group interaction for Minnesota Living with Heart Failure Questionnaire (MLHFQ) (P = 0.03). The K-M curves for the cumulative survival rate showed no significant difference between the two groups (P = 0.28), but the treatment group tended to have better survival. The adverse events and safety profile of the interventions were similar in the two groups (P > 0.05).

Conclusions: Standardized medication plus TCM staging-differentiation treatment improves cardiopulmonary function and quality of life and have tend to increases the survival rate.

GW25-e2181
The effect of different altitude hypoxia on hem oxygen (HO) -1C02-bilirubin system in elderly patients with congestive heart failure
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Objectives: High altitude (HA) is felt to be a detrimental environment that affects the cardiovascular system. Changes in physiological functions are reported during high altitude exposure, yet, few study have explored the effect of different altitude hypoxia (2260 m, 3300-3500 m) on hem oxygen (HO) -1C02-bilirubin system in elderly patients (>65 years old) with congestive heart failure, to evaluate the relationship with left ventricular mass index (LVMi), mean wall stress (MWS) and cardiac function.

Methods: CHF patients (n = 56) from high altitude were studied and 69 CHFs from moderate altitude (2260 m) were enrolled as controls, the serum levels of hem oxygen-1 (HO)-1C02-bilirubin system were detected. That Left ventricular ejection fraction (LVEF) LVMi and MWS were measured by echocardiography.

Results: Compared with moderate altitude group, the serum levels of HO-1 and COHb were obviously increased in high altitude group[HO-1 (127.8 ± 12.8) vs (86.5 ± 8.4) mmol/L; COHb (94.3 ± 1.36) % vs (52.7 ± 0.75) % respectively]. Similarly, LVMi and MWS were significantly higher in high altitude group ([182.3 ± 8.7] vs (98.4 ± 5.3) g/m2 and (453.8 ± 15.7) vs (299.4 ± 10.1) dynes x 10-6 x cm2, respectively), there was a positive correlation between LVMi, MWS and the levels of HO-1, COHb (all P < 0.01).

Conclusions: With the increase of altitude, CHF patients had higher levels of HO-1, COHb. The imbalance of oxidation/ antioxidation play important roles in pathophysiological and pathogenetic mechanism of ventricular remodeling in CHF from high altitude.

GW25-e2531
To evaluate the effect of PCI in the patients who get the anterior myocardial infarction with ventricular aneurysm and the change of N-terminal B-type natriuretic peptide (BNP), serum high-sensitivity C-reactive protein (hs-CRP) in periprocedure period of PCI TCM syndrome type changes that can be used
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Objectives: To evaluate the effect of PCI in the patients who get the anterior myocardial infarction with ventricular aneurysm and the change of N-terminal B-type natriuretic peptide (BNP), serum high-sensitivity C-reactive protein (hs-CRP) in periprocedure period of PCI and whether these factors could be early predictors of ventricular aneurysm. Finally analysis of the aneurysm patients in periprocedure period of PCI TCM syndrome type changes that can be used, conditioning, the Integrative inhibition of ventricular remodeling.

Methods: 43 cases with anterior myocardial infarction who underwent PCI, including 31 males and 12 females, among aged 58.3 ± 12.1 (55–69) years old; previous PCI, severe infection, tumors, rheumatic diseases, infectious disease, liver and renal insufficiency excluded. Based on left ventricular angiography, the patients were divided into ventricular aneurysm group and control group. All patients were got the blood sample of hs-CRP, BNP before PCI, and hs-CRP 12 h or serum BNP after 48 h. Ultrasonic cardiogram, ECG, serum proBNP and hs-CRP were followed up in one month. First of all, according to EF and left ventricular internal diameter of 1 month after surgery in the ventricular aneurysm group, 25 people confirmed the signature of the PCI in ventricular aneurysm in patients. Followed by between ventricular aneurysm groups and control groups compare hs-CRP preoperative and postoperative 12-16 h, BNP preoperative postoperative 48 h and after one month, making a comparison confirmed that hs-CRP and BNP for ventricular aneurysm in patients undergoing PCI of the predictive value.

Results: (1) Compared pre-PCI and 48 h after PCI in Ventricular aneurysm group, the LVEF (Left ventricular ejection fraction, LVEF; 0.547 ± 0.101 vs 0.565 ± 0.092, P = 0.513 > 0.05) and LVEDD (left ventricular diastolic diameter, LVEDD; 52.5 ± 6.836 vs 58.0 ± 5.720, P = 0.351 > 0.05) were not significant difference but there were significant difference of LVEF (0.547 ± 0.101 vs 0.652 ± 0.072, P = 0.031 < 0.05) and LVEDD (52.52 ± 6.838 vs 47.16 ± 14.119, P = 0.002 < 0.05) between pre-PCI and in one month after PCI. (2) Compared to Control group, serum hs-CRP pre- and postoperative 12-16 h in the ventricular aneurysm group were significantly increase (3.501 (1.37-12.38) vs 0.98 (0.27-5.10), 3.12 (1.85-9.41) vs 1.11 (0.21-3.33), P value were 0.012 and 0.01). Serum NT-proBNP pre-PCI 48 h and a month after PCI in the ventricular aneurysm group were significant difference (1173.00 (518.75-198.50) vs 439.30 (123.33-912.83), 313.05 (138.75-738.00) vs 498.00 (114.25-534.00), P value were 0.013, 0.030). (3) Preoperative TCM, more than 43 cases of patients with anterior myocardial infarction and blood deficiency, blood stasis - based PCI postoperative Qi Deficiency, blood stasis, blood heart yang lack of permet, Qi blood stasis and heat toxin attacks the card, liver and spleen do not tune the card.

Conclusions: (1) PCI can improve heart function to anterior myocardial infarction with Left ventricular aneurysm patients. (2) Serum hs-CRP and NT-proBNP maybe predictive value for anterior myocardial infarction with Left ventricular aneurysm patients. (3) 43 cases of patients before surgery, TCM Integrative conditioning the patients, which will help patients with early rehabilitation.

GW25-e4372
Xinshuitong Capsule via aquaporin-2 enhances Xinshuitong Capsule via aquaporin-2 enhances the diuretic effect in the chronic heart failure patients
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Objectives: Aquaporin-2 (AQP-2), which was involved in renal water reabsorption, was found high in the urine of chronic heart failure (CHF) patients. Xinshuitong Capsule (XC) has natriuretic effect in CHF patients, however, whether this effect related to AQP pathway remains to be known.

Methods: 36 NYHA III/IV CHF patients were randomized into three groups: routine therapy (RT), routine therapy plus XC (RX) or plus placebo (RP), all the patients received furosemide treatment (60 mg/d). Quality of life (QL) was assessed by SF-36 Health Status Survey. Urine AQP-2, 24h urine volume, free water clearance (Cfwoa) and fractional excretion of sodium (FENa), plasma vaesopressin (AVP), renin, angiotensin II (Ang II), aldosterone (Aldo), atrial (ANP) and brain natriuretic peptides (BNP) were measured before or every day in the 15-day study.

Results: The groups were matched for age, gender, race, baseline indexes, and NYHA class stratification. Compared to RT or RP group, urinary AQP-2 excretion decreased in RX group from day 2, and the significant decrease was observed at day 6 and this level maintained until the end of the study (pmol / ml: day0, 92±21; day1, 72±13; day2, 55±10; day3, 44±11; day, 34±5; day5, 22±7; day 6, 15±5; day 6, 12±4, P = 0.092, 0.101 vs 0.05). Cfwoa was significantly enhanced in the RT group (12.9%, 0.05% vs 0.00%) and the RX group (20%, renin (12%), Ang II (9%) and Aldo (17%) were lower in RX compared to RT and RP, however, plasma levels of ANP and BNP showed no difference among the three groups. QL and NYHA class in RX improved in varying degrees compared with the other two groups.

Conclusions: XC could increase urine output and inhibit water reabsorption via the AQP2 water channel, and XC also had pharmacodynamic actions on AVP and the ren-angiotensin-aldosterone system and synergistically enhanced natriuretic effects in CHF patients.

GW25-e0869
Research on Diagnosis Criteria of Qi-deficiency-blood-stasis Syndrome of Congestive Heart Failure Based on Literature Analysis, Clinical Retrospective Analysis, and Epidemiological Survey
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Conclusions: We conclude that plasma relaxin-3 concentrations are decreased in failure.

Additionally, there was no correlation between the plasma concentrations of relaxin-3 (ml) in patients with CHF and 69.37 pg/ml (range, 48.0 - 121.44 pg/ml) in the control group, the difference was statistically significant (P<0.01). The level of plasma BNP was positively correlated with the level of plasma BNP (r=0.855, P<0.01). AUC was 0.808 when the level of serum galectin-3 was more than 8.61 ng/ml. The sensitivity to predict CHF was 77.1%, the specificity was 92.3%. AUC was 0.903 when the level of plasma BNP was more than 1011 pg/ml. The level of serum galectin-3 was positively correlated with the level of plasma BNP.

Observation of effects of individualized rehabilitation guidance on patients with heart failure after myocardial infarction
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Objectives: To explore the influence of individualized rehabilitation guidance for improving heart function in patients with heart failure after myocardial infarction.

Methods: Enroll 106 hospitalized patients with heart failure after myocardial infarction in the study, 52 male, 54 female, aging from 68 to 75, cardiac function ranging from II to III levels. They all suffered from heart failure after myocardial infarction and were treated with strong heart diuresis therapy. All 106 cases were randomly divided into two groups (control group and vs. observation group), there was no statistically significant difference between them. Patients in control group were treated with routine nursing care during hospital stay, while for patients in the observation group, in addition to routine nursing instruction, individualized rehabilitation guidance was performed, including the rest and activity guidance, diet guidance, defecation guidance, medication guidance, psychological guidance, guidance of disease knowledge, and self-monitoring, et al. A 6 months follow-up was conducted after discharge. The monitoring indicators including 6 minutes walking distance, B-type natriuretic peptide, heart function in hospital and 6 months after hospitalization.

Results: 6 minutes walking distance in observation group increased significantly than the control group, the difference was statistically significant (P<0.05). The level of B-type natriuretic peptide decreased in 49 cases in the observation group, in the control group that was 42, the differences was statistically significant (P<0.05).

Conclusions: Individualized inpatient rehabilitation guidance can help the patients build up a good way of life, ensure the treatment effect, improve the patient’s heart function and life quality.

Diagnostic and predictive value of serum galectin-3 in patients with chronic heart failure
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Objectives: Biological markers such as BNP and NT-proBNP have been widely used in evaluation of the incidence and severity of heart failure clinically. However, multiple mechanisms are involved in the pathophysiology process of heart failure, thus the biomarker is insufficient. Combination of several biological markers may be more reliable. Galectin-3 is a new biological marker, which may participate in the regulation of cardiac fibrosis and remodeling. Therefore, it can be used in evaluation of cardiac fibrosis and remodeling in patients with HF. In this study comparison of the level of serum galectin-3 in CHF

Methods: Patients with chronic heart failure were recruited. The significance of heart failure was determined by NYHA classification II-IV. The level of serum galectin-3 was determined by sandwich ELISA. Echocardiography was performed to determine the diastolic left atrial diameter (LA), left ventricular end-diastolic diameter (LVD), and left ventricular ejection fraction (LVEF). Data were analyzed by SPSS 17.0, P<0.05 was considered statistically significant. Association of two sets of data was evaluated with Pearson correlation analysis. Receiver-operating characteristic (ROC) curve was used to analyze the prognostic value of galectin-3 or BNP for CHF.

Results: The level of serum galectin-3 was significantly higher in the CHF group compared with that in control; The differences of the level of serum galectin-3 between different sub-groups was statistically significant (P<0.05 and P<0.01). The level of serum galectin-3 was positively correlated with LA (r=0.465, P<0.01) and LVD (r=0.643, P<0.01), but negatively correlated with LVEF (r=0.788, P<0.01). The level of plasma BNP was positively correlated with LA (r=0.464, P<0.01) and LVD (r=0.633, P<0.01), but negatively correlated with LVEF (r=0.799, P<0.01). The level of serum galectin-3 was positively correlated with the level of plasma BNP (r=0.855, P<0.01). AUC was 0.808 when the level of serum galectin-3 was more than 8.61 ng/ml. The sensitivity to predict CHF was 77.1%, the specificity was 92.3%. AUC was 0.903 when the level of plasma BNP was more than 1011 pg/ml. The level of serum galectin-3 was positively correlated with the level of plasma BNP.

Conclusions: (1) The level of serum galectin-3 is related to the changes of left heart function and structure, indicating that galectin-3 may be involved in the process of left ventricular remodeling in CHF. (2) The specificity of galectin-3 is higher than BNP in predicting CHF, not the sensitivity.