

amplified time by two amplifier circuits which used AD620 and OP1177 as operation amplifiers, and then was sampled by the A/D in the STM32 microcontroller. The coordinate correction method was used to correct R wave deviation derived in the process of ECG filtering and detection. On the basis of TCP/IP, the GPRS module was set to the transparent transmission mode, and the detection mark of transparent transmission was established to complete a stable and convenient transmission of the ECG signal. The front end server and the back end sever of the cloud medical service platform were connected through the TCP/IP protocol, and the back end server received the ECG signal via DDNS.

RESULTS In the process of signal preprocess, Hilbert zero phase filter was used to eliminate various noise interference, which made the peaks and troughs of ECG signal obvious, and the stable region smooth to facilitate the subsequent QRS detection. The threshold method was used to remove the remaining burr with high frequency and small amplitude, which made the output signal in the smooth region smoother. The exact coordinates of R wave was obtained after the signal dealt with the threshold method was continued to deal with the four following steps, interval method, exclusion method, matching method, and coordinate correction method. The interval method was used to select the alternative positive and negative waves. The false value points were removed using the exclusion method, and T wave and P wave with big amplitude mistaken as R wave was removed by matching method.

CONCLUSIONS ECG signal could be real time transmitted and received by Hilbert zero phase filter, threshold method, interval method, exclusion method, matching method, and coordinate correction method based on the remote monitoring system GPRS and DDNS built in this study.

GW27-e1192

CB1 receptor attenuate neurons apoptosis to improve the outcome of Win55, 212-2 inducing hypothermia after cardiopulmonary resuscitation in rats

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OBJECTIVES To investigate whether the CB1 receptor attenuate neurons apoptosis to improve the outcome of Win55,212-2 inducing hypothermia after cardiopulmonary resuscitation.

METHODS Cardiac Arrest (CA) was induced by transoesophageal ventricular pacing in Sprague-Dawley rats. 5min after onset of CA, cardiopulmonary resuscitation (CPR) was started. At 5 min post-resuscitation, 40 animals were randomized into 4 groups (n=10 in each group): (1) Win55, 212-2 group; (2) Control group; (3) Win55, 212-2 + CB1 antagonist SR141716A group; (4) Win55, 212-2+ CB2 antagonist SR144528 group. Animals received SR141716A (5mg/kg) or SR144528 (5mg/kg) or placebo. After 30 min of ROSC, animals in drug groups were received continuous intravenous infusion of Win55,212-2 (1 mg/kg/h) for 4 h while which in control group were received 5% DMSO. The survival time and neurological deficit score (NDS) were observed. Then Brains were harvested for detecting morphological change and apoptosis of neural cell at 24 h, 48 h and 72 h after ROSC respectively.

RESULTS Temperatures of rats in Win55,212-2 group decreased from 37°C to 34°C in 4 hours, which could be blocked by CBI

antagonist SR141716A not CB2 antagonist SR144528. Accumulate survival rate in W group was higher than the control group (P<0.05). NDS was significantly improved in W group than that of the control group (P<0.05). These effects also disappeared in Win55,212-2+CB1 antagonist SR141716A group. Less morphological injury, lower number of neuron apoptosis were found in Win55,212-2 group, which were reversed by administration of SR141716A.

CONCLUSIONS WIN55, 212-2 inducing pharmacologically hypothermia post-resuscitation prolonged survival and improved cerebral function in a rat cardiac arrest model. The beneficial effects of WIN55, 212-2 were associated with CB1 receptor ameliorating the histopathological damage in brain and alleviating the neuron apoptosis.

GW27-e1239

Analysis of comorbidities patients of proximal femoral fractures: a report of 2238 cases

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OBJECTIVES To analysis the cardiovascular comorbidities of the patients with proximal femoral fracture, and to explore the correlation between comorbidity and age as well as the length of stay.

METHODS 2238 patients with proximal femoral fracture form January, 2003 to December, 2013 were investigated. The comorbidities of such patients were analyzed. The correlation of comorbidity and age as well as length of stay (LOS) was explored.

RESULTS The average age was 68.57, and the average length of stay was 24.07 days. 1768 cases had comorbidities, and 470 cases had NO comorbidity. There were maximum 10 comorbidities in one single patient. The most prevalent comorbidities were essential hypertension (671 cases, 29.98%), coronary heart disease (136 cases, 6.08%), hypovolemic shock (50 cases, 2.23%), arrhythmia (96 cases, 4.29%), diabetes mellitus (type 2) (223 cases, 9.96%), sequela of apoplexy (100 cases, 4.47%), other injures (335 cases, 14.97%) and other comorbidities (157 cases, 7.02%).

The average age and LOS were 61.47 years and 18.5 days in 470 cases (42.00%) without comorbidity, 62.64 years and 20.92 days in 555 cases (24.80%) with one cardiovascular and other comorbidity, 69.25 years and 23.76 days in 380 cases (17.2%) with two comorbidities and 70.66 years and 25.15 days in 370 cases (16.53%) with more than two comorbidities respectively. The average age and LOS were 65.25 years and 27.35 days in 953 cases (42.58%) with cardiovascular comorbidities 54.35 years and 17.42 days in 815 cases (36.42%) with no cardiovascular comorbidities. The increase of age and LOS were correlated to the number of comorbidity which the patient had (P<0.05). Patients with two comorbidities and with more than two comorbidities had no significant difference in age and LOS (P>0.05).

CONCLUSIONS The most prevalent cardiovascular comorbidities in patients with proximal femoral fracture were essential hypertension, coronary heart disease, arrhythmia and hypovolemic shock. As the age increasing, the number of comorbidity and the length of stay also increase. The length of stay of the cases were long with cardiovascular comorbidities than that with other comorbidities.