GW25-e4169

QTc, Tp-Tec Interval and TP-Te/QT Ratio in Patients with Intracranial Space-occupying Lesions

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Objectives: To analyze corrected QT (QTc) interval, corrected Tpeak - Tend (Tp-Tec) interval and TP-Te/QT ratio in patients with intracranial space-occupying lesions and explore the effect of the lesions on the parameters.

Methods: A total of 236 patients (aged 15-45) were divided into 18 groups according to the anatomical areas: frontal lobe (n=10), temporal lobe (n=10), parietal lobe (n=10), occipital lobe (n=10), thalamus (n=16), mesencephalon (n=6), pons (n=7), medulla oblongata (n=12), pontocerebellar trigone (n=25), cerebellum (n=14), sad-dle area (n=22), slope area (n=12), cranial fossa (n=15), petroclival region (n=11), foramen magnum (n=5), lateral ventricle (n=10), the third ventricle (n=12), and the fourth ventricle (n=11). Eighteen healthy people (aged 15-45) were compared. The 12-lead ECG was performed on the patients and healthy controls. The QTc and Tp-Tec intervals were prolonged in mesencephalon (443.40 ± 0.032), medulla oblongata (437.88 ± 0.017), and foramen magnum (444.19 ± 0.049). The difference is statistically significant. The QTc in other groups had no difference compared with healthy controls. No changes of TP-Te interval and TP-Te/QT ratio were found between each lesion group and healthy controls.

Conclusions: The intracranial space-occupying lesions on mesencephalon, medulla oblongata and foramen magnum can cause the QTc interval prolonged, which shows that these areas have some relationships with the ventricular electric activity.

Key words: Electrocardiogram; Corrected QT interval; Tpeak-Tend interval; intracranial lesions.

GW25-e4619

The Applying of Tilt-table Test in the Vasovagal Syncope

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Objectives: To investigate the applying of tilt-table test (HUTT) in the vasovagal syncope (VVS).

Methods: To enroll the patients with recurrent syncope of unexplained origin and to observe its results. Supine pre-tilt phase of at least 20 min when venous cannulation is undertaken. Baseline tilt angle was 60-70, and the test was continuous until to show the positive result or to reach a maximum of 45min. Use of intravenous isoprenaline. 3 cases accepted the pacing therapy, 2 cases of cardioinhibitory bradycardia during HUTT, were the main reasons of VVS, and the trigger mechanism may be related to the reflex of Bezold-Jarisch. There exist the limitations and the risks to human life that related to the procedure, but it was also a safe and effective method in the differentiation of the syncopes and identifying the type of VVS in present.

HUTT may affect the clinical treatment decision, and was also valuable in improve the prognosis.

GW25-e5199

Depressed Deceleration Capacity of Heart Rate Are correlated with High Levels of N-Terminal Pro-B-Type Natriuretic Peptide in Idiopathic Dilated Cardiomyopathy

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Objectives: Idiopathic dilated cardiomyopathy (IDC) patients are the potential population of sudden cardiac death. In the current study we investigated the relationships between deceleration capacity of heart rate (DC), a new marker of cardiac vagal tone, and N-terminal pro-B-type natriuretic peptide (Nt-proBNP) levels in IDC patients.

Methods: We enrolled 30 patients with IDC (<70 years) in sinus rhythm. Phase-rectified signal averaging-derived DC, HRV, including standard deviation of normal R-R intervals (SDNN), squares of differences between adjacent NN intervals (rMSSD), were measured from 24 h electrocardiographic Holter monitoring. Plasma Nt-proBNP was measured from blood samples taken on admission. Left ventricular ejection fraction (LV EF) was assessed by biplane echocardiography.

Conclusions: Our pilot study highlights the significance of Nt-proBNP levels to predict depressed DC in IDC patients.

GW25-e5293

Investigation about The Relation of MTWA with The Cardiac Functional Parameters in Patients with Dilated Cardiomyopathy

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Objectives: To investigate relation of MTWA with the cardiac functional parameters including left ventricular end-diastolic dimension (LVEDD) and left ventricle ejection fraction (LVEF), et al.

Methods: 31 patients with dilated cardiomyopathy including 31 men and 1 woman aging from 40 to 61 (50.06±7.14) years were selected. MTWA was assessed for all the patients with dilated cardiomyopathy with spectral method using Cambridge Heart. Heartwave™ system. Physical examination and ultrasonic cardogram were conducted for all the patients with dilated cardiomyopathy. LV EDD, LVEF, et al were measured by way of ultrasonic cardogram. The relation of MTWA with LVEDD, LVEF, et al was analyzed.

Results: The LVEDD was larger in positive MTWA than in negative MTWA (P<0.01) and the LVEF in positive MTWA was lower than in negative MTWA (P<0.01) for patients with dilated cardiomyopathy. The MTWA positive rate was higher in patients with LVEDD ≥55mm than in patients with LVEDD <55mm (P<0.01) and also higher in patients with LVEF <40% than in patients with LVEF >40% (P<0.01) for patients with dilated cardiomyopathy.

Conclusion: The LVEDD is larger in positive MTWA than in negative MTWA and the LVEF in positive MTWA is lower than in negative MTWA for patients with dilated cardiomyopathy. The MTWA positive rate is high in patients with cardiomyopathy with LVEDD ≥55mm and/or LVEF ≤40%, which sport that TWA is a new prognostic indicator which is worthy of further clinical research.