resulting from intra and intertrial conduction disorders present a high risk as regards the generation of AF. Nasal continuous positive airway pressure (CPAP) treatment on atrial electromechanical delay and P wave dispersion (PD) in patients with obstructive sleep apnea (OSA).

Methods: A total of 24 OSA patients diagnosed with polysomnography who were planned to undergo CPAP therapy and 18 healthy subjects were included in the study. The basal intra and intertrial electromechanical delays prior to onset of the therapy were measured using Tissue Doppler Imaging (TDI); PD was calculated on the basis of 12-lead ECG. In order to evaluate the effects of CPAP therapy, the patients underwent re-evaluation on the basis of TDIs and 12-lead ECGs 6 months after the initiation of the therapy.

Results: Intertrial, left intratrial and right intratrial electromechanical delays prior to the therapy were found to be significantly greater in OSA group compared with the therapy group (39.2±8 vs. 21.1±2.8, p<0.001; 20.5±7.2 vs. 11.1±2.0, p=0.003; 20.7±11 vs. 10.2±2.6, p<0.001, respectively). PD was found to be increased in OSA group compared with the healthy controls (44.7±7 ms vs. 28.5±4.4 ms, p<0.001). Compared with the basal values, intertrial, left intratrial and right intratrial electromechanical delays measured with TDI during the re-evaluation 6 months after the CPAP therapy were found to decrease (39.2±8 vs. 28.7±6.5± p<0.001; 20.5±7.2 vs. 15.6±5.1, p<0.002; 20.7±11 vs. 13.1±7.3, p<0.001, respectively). Such decreases were also valid for the post-therapy PD values, compared with the basal values (44.7±7 ms vs 37±7, p<0.001).

Conclusion: It is possible to delay and prevent P wave abnormality by improving the electromechanical delay and P wave dispersion in patients with OSA.

PP-182
Comparison of Five QT Correction Methods in Patients with Hypoxic Brain Injury
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Background: There has been increasing interest in developing non-invasive methods to estimate cardiac repolarization parameters and the risk of sudden cardiac death (SCD). One of the most frequent causes of SCD is coronary artery arrest. Certain electrocardiographic repolarization indexes are valuable in determining prognosis of healthy individuals. Increases in the heart rate shortens the QT interval. Thus, many methods have been developed to correct the QT interval to account for changes in the heart rate.

Methods: Forty patients with ischemic-hypoxic encephalopathy (21 male, 19 female; mean age 60±18 years) were enrolled in the study. While hypoxia was caused by cardiopulmonary resuscitation (CPR) in thirty-seven patients (92.5%), three patients (7.5%) experienced hypoxia from other causes. Coronary revascularization had been given to 11 patients (27.5%) previously. QT, JT, TaTe intervals were measured over 24 hours by ambulatory ECG monitoring to calculate the slowest and fastest heart rates (Table 1). These measured repolarization parameters were adjusted using 5 different correction formulas and distinctions between these correction formulas were evaluated (Table 2).

Results: The Fridericia method was least affected by heart rate in particular the QT (419 ± 51 msec, 451 ± 49 msec) and TaTe (103 ± 33 msec, 115 ± 23 msec) during the fastest and slowest heart rates. For the parameters JT (292 ± 50 msec, 309 ± 38 msec) and JTa (198 ± 33 msec, 201 ± 53 msec), the Framingham method gave the most accurate results. What should be the upper limit of the QT interval? This question remains important; because, the 450 msec limit for males and 470 msec limit for females has been calculated using the Bazett’s formula. While it is now clear that the Bazett’s formula does not correct the QT interval safely. For example, in our study, the number out of 40 patients with long QT interval was 20 patients by the Bazett’s formula and 35 patients by the Nomogram formula during fastest heart rate (longer than 450 msec for male, longer than 470 msec for female). Whereas according to the Fridericia method, the number of patients with long QT interval was nine. We found that at high heart rates, the Bazett’s and Nomogram methods were inadequate for determining long QT intervals. Incorrect long QT interval diagnoses are made according to QT intervals calculated using the Bazett’s and Nomogram methods and based on this methodologists are chosen. Hence, caution should be used with QT intervals calculated using these two methods especially in higher heart rates.

Conclusions: In this study, the Bazett’s formula, which is the most commonly used correction method, was insufficient to correct the ventricular repolarization parameters. The Fridericia formula was the least affected by heart rate and gave more accurate results than Bazett’s formula in determining the QT and TaTe intervals.

QT correction formulas based on heart rate
Bazett’s
QTc= QT/√RR
Fridericia
QTc= QT/[0.384×(1000-RR)]
Hodges
QTc= QT+0.154×(1000-RR)
Framingham
QTc= QT+0.384×(1000-RR)
Nomogram
If RR<1000: QTc= QT+0.116×(1000-RR) If 600<RR<1000: QTc= QT+0.156×(1000-RR) If 600<RR<1000: QTc= QT+0.384×(1000-RR)

ECG measurements (mean±SD) (msec)
RR slowest 597 ± 344
QT fastest 341 ± 63
QT slowest 443 ± 72
JT fastest 214 ± 50
JT slowest 304 ± 54
JTa fastest 127 ± 33
JTa slowest 188 ± 43
TaTe fastest 82 ± 20
TaTe slowest 111 ± 28

PP-183
The Importance of Fragmented QRS in Evaluation of Cardiac Iron Burden, in Patients with β-Thalassemia Major
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Objectives: Beta thalassemia major, which causes chronic hemolytic anemia, is an inherited hemoglobin disorder. The treatment with chelating agents are shown improvement, but repeated blood transfusions, continue to lead to iron overload and dysfunction of organs. In these patients, the leading causes of death are heart failure and arrhythmias, so cardiac iron overload monitoring is essential. Cardiac MRI T2 * values, recommended for the evaluation of iron overload in the heart, this is a technique that can be trusted, but the high cost and difficult. The objective in this study, is investigation of the importance of fragmented QRS (fQRS) and the relationship between cardiac T2 * values in assessment of cardiac iron overload.

Methods: In this study, patients between the ages of 15-40 with a diagnosis of thalassemia major were enrolled. In these patients, cardiac MRI T2 * values and ECGs, were evaluated annually. Cardiac T2 * value of less than 20, was considered as cardiac iron overload. Initial studies reported of fQRS, can be used for the evaluation of scarring and fibrosis, fragmented QRS was defined as an additional spike of QRS complexes without bundle branch block. The relationship was investigated, between cardiac T2 * values and the presence of fragmented QRS in ECG.

Results: This study included a total of 103 patients (46 males, 57 females) follow up that cannot be follow-up in patients, regulation of treatment, due to cheap and easy.

Conclusion: Cardiac involvement is the main cause of mortality, early diagnosis of cardiac dysfunction is vital in patients with beta thalassemia major. In these patients, researching the presence of fQRS on surface ECG, especially in cardiac T2 * value that cannot follow-up in patients, regulation of treatment, due to cheap and easy method, must be considered.