QT interval and its correlations with traditional risk factors of development of cardiovascular diseases in patients with active early psoriatic arthritis

THU0307

E. Markelova 1,* D. Novikova 1, T. Korotaeva 1, I. Kirillova 1, E. Loginova 1

Nasonova Research Institute of Rheumatology, Moscow, Russian Federation

Introduction

Cardiovascular diseases (CVD) are leading cause of morbidity and mortality in patients (pts) with psoriatic arthritis (PsA). An abnormally prolonged and shorted QT interval are associate with an increased risk of ventricular arrhythmias and sudden cardiac death.

Objective

To evaluate QT interval during Holter monitoring and cardiovascular (CV) risk assessment using SCORE (Systematic COronary Risk Evaluation) in early PsA (EPsA) pts.

Methods

We included data of 48 (F.-23) DMARD-naive EPsA pts (according to the CASPAR criteria) with no history of CVD: mean age - 36[28; 47] years, EPsA duration – 6,9[4; 12] months, DAS – 3.97[3.27; 4.1], C-reactive protein – 19.4[8.8; 37.6]mg/l. Controls subjects were matched by age, sex (n=48). All pts were assessed for traditional risk factors of CVD (ESC guidelines, 2016), 24-hour (24-h) ECG monitoring were analyzed for QT interval corrected for heart rate (QTc). Prolonged QTc was defined as ≥460ms in women and ≥450ms in men, short QTc – <330ms. Ten-year risk of CV death was estimated using SCORE algorithms (ESC guidelines, 2016), categorized as low (<1%), intermediate (1% to <5%), high (≥5% to <10%) or very high (≥10%). Intima-media thickness of the carotid artery (c-IMT) was measured using a high-resolution B-mode ultrasound machine.

Results

QTc interval during the 24 hours was significantly prolonged in EPsA pts when compared to the control group (table 1). We didn't find short or prolong QTc interval in EPsA pts and control group.

Table 1. QTc interval in EPsA pts and control group

Parameters	EPsA pts	Controls
QTc (ms), day	397[376; 404]	387,5[370,5; 396]*
QTc (ms), night	396[377; 408]	390[367; 396,5]*
QTc (ms), 24-h	395[378; 406]	387[370; 396]*

Data are present in median values and interquartile range, *p<0,05 (nonparametric paired Mann-Whitney U-test).

62.5% of patients with EPsA were classified as being at low risk 10-year risk of CV death using the SCORE algorithm, 6.25% pts – intermediate risk, 29.17% pts – high risk, 2.08% pts – very high risk (Fig.1). Increased cIMT was found in 11(22.9%), atherosclerotic plaques - in 15(31.3%).

We found significant correlations between age and QTc duration during the 24 hours (R=0.48) (Fig.2), as well as in both day (R=0.46) (Fig.3) and night periods (R=0.45), for all p<0.05. We didn't find correlations between QTc duration and traditional risk factors of CVD, disease activity of EPsA. Significantly correlations were observed between SCORE level and abdominal obesity (R=0.43, p<0.05), BMI (R=0.41, p<0.0001), c-IMT (R=0.41, p<0.05).

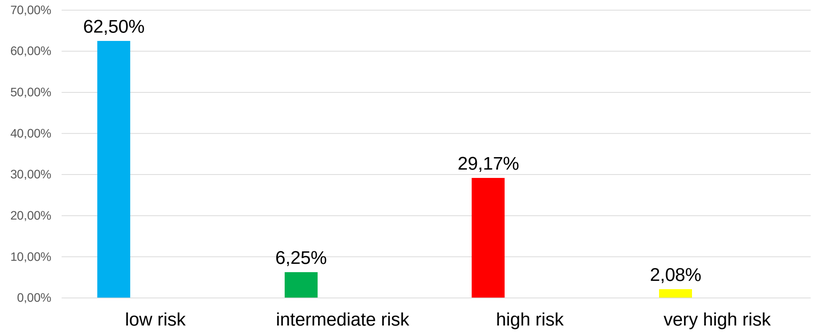

Fig.1. 10-year risk of CV death using the SCORE algorithm in early patients with psoriatic arthritis

Conclusion

QT interval was significantly prolonged in EPsA pts when compared to the control group. The age of pts was associated with increase of the QTc interval. 29.2% of patients were classified as being at high risk 10-year risk of CV death using the SCORE algorithm. The increase level of SCORE associated with a subclinical atherosclerosis. Combination of prolonged QT interval and carotid atherosclerosis confirms presence of high cardiovascular risk in EPsA pts.

Fig.2. Correlations between age and QTc duration during the 24 hours

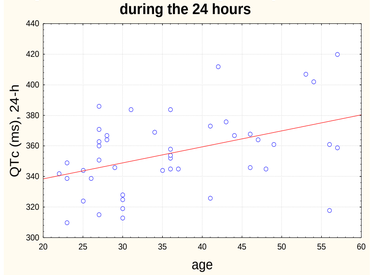

Fig.3. Correlations between age and QTc duration during the day period