Evaluation of ventricular repolarization in pregnant women with intrahepatic cholestasis

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Objective
Bile acids can induce arrhythmia by altering cardiomyocyte contractility or electrical conduction. In contrast to the known arrhythmogenic effects of BAs on the fetal heart, little is known about their potential implications for the adult heart. The aim of this study was to investigate, by means of QT dispersion parameter detected by simple standard electrocardiogram (ECG), ventricular repolarization changes in pregnant women with and without intrahepatic cholestasis of pregnancy (ICP).

Methods
In this case–control study including 75 pregnant women with cholestasis and 35 healthy, uncomplicated pregnancy cases, electrocardiographic QT interval durations and QT dispersion (QT-disp) parameters, corrected for the patients' heart rate using the Hodges formula, were investigated.

Results
Maximum corrected QT interval values were significantly higher in the severe ICP group than in the control group (p<0.001) and significantly higher in the severe ICP group than in the mild ICP group (p=0.01). The values of the mild ICP and control groups were similar. Corrected QT-disp values were also significantly higher in both ICP groups than in the control group and significantly higher in the severe ICP group than in the mild ICP group.

Conclusion
Our data clearly demonstrated that QT-disp values were significantly altered in pregnant women with cholestasis when compared to the normal ones. This simple ECG parameter can be used to screen high-risk women, in order to better target counseling regarding lifestyle modifications and to conduct closer followup and management of women with a history of ICP.