Introduction: Objective To analyze the incidence of QTc prolongation and its influencing factors in hospitalization of breast cancer patients.

Methods: Retrospective analysis of clinical baseline data of 296 patients with breast cancer diagnosed by pathology from January to December 2018 in First Affiliated Hospital of Xi'an Jiaotong University, aged 26 to 84 years old, we observed all ECG of patients before February 2019. The corrected QT values by heart rate were taken as QTc max, QTc ≥ 450 ms as the prolongation group, and QTc < 450 ms as the control group. Univariate and multivariate logistic regression analysis were used to analyze the factors that may cause QTc prolongation.

Result: The incidence of QTc prolongation in breast cancer patients was 18%. Correlation factor analysis showed that the heart rate (OR: 1.04 P: 0.012), with hypertension (OR: 6.48 P: < 0.001), the use of anthracycline (OR: 3.96 P: 0.031) were statistically significant (all P < 0.05); whereas the age (OR: 1.01 P: 0.012), serum sodium (OR: 0.99 P: 0.869), potassium (OR: 0.69 P: 0.446), calcium (OR: 4.3 P: 0.254), with coronary heart disease (OR: 0.32 P: 0.344), diabetes (OR: 2.4 P: 0.377). The type of medical insurance (OR: 0.75 P: 0.603) and education degree (OR: 0.61 P: 0.312) were no statistical significance (P > 0.05).

Conclusion: The increased heart rate, with hypertension and anthracycline use in breast cancer patients may be the risk factors for prolonged QTc.