R2734
Abstract (publication only)
Prevalence of QTc prolongation among HIV-infected patients: a clinical prediction tool to determine high-risk patients

N. Patel*, M. Veve, C. Miller (Albany, US)

Objectives: The objectives of this study were to 1) quantify prevalence of QTc prolongation and 2) determine the predictors of QTc prolongation among HIV-infected patients. Methods: A cross-sectional study was performed among HIV-infected patients receiving care at the Albany Medical Center between Jan 2007 and Jul 2011. A random sample of these patients was selected for screening. Inclusion criteria were: i) age >= 18 years, ii) documented HIV-infection, and iii) availability of at least 1 echocardiogram (EKG) test in the patients' medical record. Trained reviewers extracted the following from the patients' medical records: demographics, co-morbid conditions associated with QTc-prolongation, EKG test results, and medication histories. Normal QT interval was defined as <= 430ms among men and <= 450ms among women. Results above these thresholds were considered abnormal. Logistic regression was utilized to determine the variables independently associated with QTc prolongation. Significant variables in the logistic regression analyses were used to determine the predicted probabilities of the outcome. Results: There were 138 patients that met inclusion criteria. The mean (SD) QT interval was 420 (25.9) ms. Abnormal QT intervals were observed in 38 (27.5%) patients. The distribution of concomitant comorbidities differed significantly between patients with abnormal and normal QT intervals. The frequency of cardiac, hepatic and renal comorbidities were higher among patients with abnormal QT intervals compared to patients with normal QT intervals. Known medications with a high risk of causing QT prolongation were more prevalent among patients with an abnormal QT than patients with a normal QT interval. In multivariate analyses, the only variable to be independently associated with abnormal QT interval was the number of comorbidities (OR = 2.9, 95% confidence interval 1.81 - 4.66, p < 0.001). The observed and predicted probabilities of abnormal QT, stratified by number of comorbidities, are displayed in Table 1. Overall, there was good concordance between observed and predicted probabilities and the risk of abnormal QT interval increased monotonically. Conclusion: This study included patients with an available EKG readings and demonstrated a high prevalence of HIV-infected patients with an abnormal QT interval. The number of comorbidities was the only variable independently associated with an abnormal QT interval.

Table 1: Observed and Predicted Probabilities of Abnormal QT Interval, Stratified by Number of Comorbidities

Number of Comorbid Conditions	Observed Probability	Predicted Probability
0 conditions (n=74)	16.2 %	13.4 %
1 conditions (n=39)	23.1 %	31.0 %
2 conditions (n=19)	57.9 %	56.6 %
3 conditions (n =2)	100 %	79.1 %
4 conditions (n=4)	100 %	91.7 %