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**DIFFERENT FORMULA, DIFFERENT QTc INTERVAL?**

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**Introduction**

Studies demonstrate higher rates of cardiovascular death among psychiatric patients. Psychotropic medication can prolong the QT interval, increasing the risk of potentially fatal torsade de pointes. Guidelines recommend monitoring QT intervals for patients on psychotropic medication. The QT interval needs to be corrected for heart rate using a correction formula. The most commonly used is Bazett's. However, it becomes less accurate at lower and higher heart rates. Different formulae should be used in such cases. We noted that different formulae gave different QTc intervals for the same ECG posing a clinical management dilemma.

**Objectives**

To evaluate different QTc correction formulae.

**Aims**

To find out if using different QTc correction formulae produces consistently different intervals, according to the formula, for a cohort of patients' ECGs.

**Methods**

We reviewed 36 ECGs from a cross section of forensic female patients on psychotropic medication.

For each ECG we recorded the ECG calculated QTc and heart rate.

We manually calculated the QTc using Bazett, Fridericia, Hodges and Framingham formulas.

**Results**

Different formulae produced consistently variable QTc intervals. The discrepancy was greatest at lower and higher heart rates. Many patients had high heart rates making the discrepancy pertinent to our patient cohort.

**Conclusions**

Psychotropic medication is adjusted according to QTc thresholds which are stipulated in guidelines. At present guidelines do not recommend which QT correction formula to use. Different formulae give different QTc intervals. Our results demonstrate the need for a consensus to be reached and included in guidelines to ensure consistent and safe practice.