

## **Abstract.**

**Background:** Sepsis is one of the leading post-surgical or post-traumatic complications in today's hospitals. This invasive condition is the major cause of morbidity and mortality in intensive care units worldwide, as well as the leading cause of death in non-coronary patients.

**Aim:** To study QT dispersion (QTD) and corrected QT interval (QTc) in septic patients in correlation to: arrhythmias, severity (APACHEII), hospital outcome (survival, mortality), electrolytes and need for mechanical ventilation (MV).

**Subject and Methods:** A prospective cross-sectional analytical study including 40 adult patients who were admitted with diagnosis of sepsis at Critical Care Department at Kasr Al-Ainy Hospital and at ICU unit at Ahmed Maher Teaching Hospital. They were monitored with a 12-leads ECG for 7 consecutive days for QTc and QTD. APACHEII score was done at admission. Serum K and Mg were withdrawn at days 0, 3, 7. Documentation was done if the patients developed arrhythmias or was mechanically ventilated. At last, 20 healthy participants as control were included to measure normal QTc and QTD.

**Results:** It was found that 27.5% of the studied population developed arrhythmias and 60% died. Also, QTD was significantly correlated with QTc (p-value 0.07), mortality (p-value <0.001) and need for MV (p-value 0.002). In addition, both QTD and QTc were significantly correlated among cases and control (p-values 0.002, <0.001). While, both QTD and QTc were not significantly correlated with length of hospital stay, serum electrolytes, arrhythmias and APACHEII score.

**Conclusion:** QTD is highly prevalent in patients with sepsis and is considered as one of the main predictors of poor outcome during hospital stay which makes it a good prognostic tool to measure the cardiac affection in patients with sepsis.

**Key words:** sepsis, arrhythmias, corrected QT interval, QT dispersion, hospital outcome, mortality.

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