21.
Prolonged QT Intervals in Patients with Out-of-Hospital Ventricular Tachycardia Cardiac Arrest

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Objective: To determine the prevalence and outcome of out-of-hospital ventricular tachycardia (VT) cardiac arrest with a prolonged QT interval and to identify the subset with torsades de pointes (TdP).
Methods: *Design:* Retrospective review. *Setting:* Fire department-based paramedic system. *Participants:* Non-traumatic VT cardiac arrest (1/91–12/94) with a supraventricular perfusing rhythm (SVPR) and a measurable QT interval. *Interventions:* QT interval was measured from a SVPR and corrected QT interval (QTc) was calculated (prolonged if ≥0.45 sec). VT was classified as polymorphic or monomorphic.
Results: 190 patients met inclusion criteria. 51% of patients had a prolonged QTc (PQTc). The overall hospital discharge rate was 28.4%. No difference with respect to paramedic-witnessed arrests in each QTc group was found (25.8% normal QTc [NQTc] *vs.* 27.8% PQTc; $p = 0.752$). Patients with PQTc were less likely to be discharged from the hospital (19.6% *vs.* 37.6%; $p = 0.01$). Patients with PQTc were not more likely to have PVT (37% *vs.* 40%; $p = 0.705$). 16 (8.4%) patients had TdP. 27.8% of TdP and 26.8% of non-TdP patients were discharged ($p = 0.912$).
Conclusions: Among this subset of patients with VT cardiac arrest, a majority have a PQTc and are less likely to survive compared to patients with NQTc. TdP is uncommon in this population and does not appear to affect survival.

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A Prospective Time-Motion Study of The EMS Turnaround Interval

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Purpose: Because overall EMS system response depends on ambulance availability, we conducted a prospective study of the EMS turnaround interval. This interval consists of the delivery and recovery intervals as defined in Spaite's EMS time-interval model.
Methods: An on-site observer, while monitoring EMS radio traffic, recorded the delivery and recovery activities of personnel from a large urban EMS system at a university hospital ED. System policy permits a maximum 30 minute turnaround interval. Prospectively defined subintervals were analyzed.
Results: A convenience sample of 122 patient deliveries was collected. Observed and radio-reported arrival at the hospital differed by -1'24" to +11'8". Time from arrival to removal of the patient from the ambulance averaged 59" (range 13"–2'53"), and time from patient removal to ED entry averaged 42" (10" - 5'22"). While the mean time for the verbal report to ED staff was 33" (2"–5'20"), it was 0 = 15" in 36% of cases. Time from ED entry to placement of the patient on an ED bed averaged 2'11" (33"–9'35"). Writing the report averaged 17'12" (5'20"–52'11"). The mean time off radio was 29'51" (11'43"–53'37") and the mean time the ambulance was at the ED was 30'01" (11'25"–1°17'53"). Observed and radio-reported ambulance departures differed by -4'31" to +23'32". In 22% of cases, departure was reported on radio more than 5' after actual departure.
Conclusions: In this system, chart documentation comprises the greatest sub-interval. The turnaround interval and its subintervals vary widely, and radio contact times correlate poorly with times at the ED. Attempts at improvement of overall system response through active management of the turnaround interval may be frustrated by reliance on radio-reported availability.