Maine Medical Center
Department of Emergency Medicine

Journal Club / Research Article Summary - (Adapted from Schultz Table)

Date: 1/16/14
Presenter: Nik Collins, MD

ARTICLE:
- **Citation:** D R Tomlinson, P Cherian, T R Betts, et al. Intravenous amiodarone for the pharmacological termination of haemodynamically-tolerated sustained ventricular tachycardia: is bolus dose amiodarone an appropriate first-line treatment? *Emerg Med J* 2008 25: 15-18
- **Country:** United Kingdom
- **Funding Sources:**

PURPOSE:
- **Research Question(s):** Determine the efficacy of bolus dosing of amiodarone for the termination of stable monomorphic ventricular tachycardia

- **Hypothesis:** Bolus dosing of amiodarone was recommended by the AHA ACLS guidelines starting in 2000 with very little direct evidence for this specific indication. Efficacy may not be present.

DESIGN:
- **Study Design:** Retrospective case series of ED admissions of patients with stable monomorphic VT that were given bolus dose IV amiodarone 300mg in accordance with UK guidelines.

- **Outcome Measures:** Examined pharmacological termination rates within 20 minutes and 1 hour. Also examined incidence of hypotension requiring emergent direct current cardioversion

SETTING / SUBJECTS:
- **Research Setting:** John Radcliffe Hospital Coronary Care Unit

- **Subjects:**
  - **Study population:** Patients with stable sustained monomorphic VT.

  - **Inclusion / Exclusion criteria:**
    - Hospitalized from March 2003 to Oct 2006
- VT duration >15 min
- Absence of severe hemodynamic compromise that would result in pre-syncope, syncope, pulmonary edema, or cardiac arrest
- IV Amiodarone 300mg administered according to UK guidelines

  - **Number:** 41 patients
  - **Demographics:** 35 men, 6 women. Mean age 68, 85% with ischemic heart disease.
  - **Attrition:** n/a

**METHODS:**
- **Interventions:** 300mg IV amiodarone

**Instruments:**
- Modified Wald method for confidence intervals
- Statistical analysis using GraphPad Prism 4.01

**Data Collection:**
- Admissions database for Coronary Care Unit at John Radcliffe Hospital
- Historical trial data from multiple authors

**DATA ANALYSIS:**
- **Level of Data:** Categorical
- Comparison with historical trial data
- **Statistics Used:** Mean, standard deviation, range, confidence intervals

**What, if any, confounding variables were controlled for / adjusted for:** 9 of the patients were on chronic amiodarone therapy. They were both included and excluded from overall analysis to see if a statistical difference was found. There was not.

**RESULTS:**
• Brief answers to research questions:
  ○ <20 min termination in 6/41 (15%)
  ○ <1h termination in 12/41 (29%)

• No chronic amiodarone patients:
  ○ <20 min 6/32 (19%)
  ○ <1h 11/32 (34%)

• Additional findings:
  ○ No early deaths
  ○ DCCV required in 7/41 (17%)
  ○ 1 patient developed early recurrence after requiring DCCV
  ○ 1 late death from recurrent VT 5 days later

• Limitations?:
  ○ Retrospective case series
  ○ Not all infusions were over a similar amount of time
  ○ Compared to two RCTs and other RCSs that examined other drugs with different inclusion criteria.
  ○ Small study

IMPLICATIONS FOR PRACTICE:
• Applicable to this clinical practice:
  ○ Will continue to follow 2006 AHA guidelines that recommend Procainamide as first line therapy, and amiodarone for unstable VT or shock resistant VT

• Feasibility (cost, resources, etc): n/a

• Clinically Relevant: yes, practice changing as evidenced in the change in the 2006 guidelines

LEVEL OF EVIDENCE / DECISION FOR USE:
• Consider Replication

• Level of Evidence:
  III Well-designed non-experimental studies