in 5, and asystole in 2. Median time of first recurrence was 74 s (range, 35–82 s). One shock terminated each episode of recurrent VF.

Conclusion: following initially successful AED shocks, VF recurred frequently. Recurrent VF was unpredictable in onset and frequency and had no adverse impact on survival. Unpredictability of recurrent VF mandates vigilance by AED users, even after restoration of pulses with initial shocks.

14.3 END TIDAL CO_2 IS A QUANTITATIVE MEASURE OF CARDIAC ARREST

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Purpose: predictors of severity of cardiac arrest are poor. The purpose of this study was to evaluate end tidal CO_2 (ETCO) as a quantitative marker of cardiac arrest.

Methods: thirty-one cardiac arrest/ventricular fibrillation (VF) episodes (mean BP <40 mm Hg) in eleven patients (8M:3F; 42±24 y.o., mean EF 35%) undergoing defibrillator (ICD) implant for ventricular tachycardia or previous cardiac arrest were evaluated with continuous ETCO monitoring during defibrillation threshold testing. All patients were intubated except one. Paired t-tests were used for statistical analyses.

Results: the table details mean and SD for ETCO prior to VF, during VF and during the first two minutes after return of spontaneous circulation (ROSC). Significant differences ($p<0.001$) were noted between values prior vs. during VF, and during VF vs. ROSC.

Prior to VF	During VF	ROSC
35.16	27.13	36.55
6.76	5.95	6.58

Conclusion: significant differences are noted in ETCO during VF arrest. ETCO can predict acute cardiac arrest in a quantitative manner.

14.4 AMIODARONE DOES NOT IMPROVE SURVIVAL IN OUT OF HOSPITAL CARDIAC ARREST IN A RURAL AND SEMI-RURAL SETTING

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Background: although survival of out-of-hospital cardiac arrest remains poor, recent clinical trials have suggested significant improvement in return of spontaneous circulation (ROSC) with the use of amiodarone. This has led to its adoption as part of the ACLS resuscitation protocol for ventricular tachyarrhythmias (VT/VF). The objective of this study is to evaluate efficacy of an amiodarone protocol for VT/VF arrest in a real world out-of-hospital setting.

Methods: 277 consecutive patients who had out-of-hospital VT/VF arrest in a large diverse (urban, suburban, rural, semirural) geographic area were evaluated. 23 patients were excluded for not receiving amiodarone despite protocol indications.102 had attempted resuscitation using ACLS guidelines prior (Pre) to the start of amiodarone in the protocol (12/99–11/00) (mean age 68 years, 68 male). Subsequently,152 patients had attempted resuscitation using amiodarone (Amio) (12/00–5/02) (mean age 66 years, 123 male) based on ACLS guidelines (use of amiodarone after 3 unsuccessful defibrillatory attempts and epinephrine use).

Results: 15 patients had initial ROSC in the Pre group (14.7%) and 13 in the Amio group (8.6%). There was no statistical difference between these two groups ($p=0.11$). In the Amio group, 8 of the patients with ROSC reached the hospital (5.2%) but only 2 survived to discharge (1.3%).

Conclusions: amiodarone used as part of a real world resuscitation protocol for out-of-hospital VT/VF arrest victims in a diverse geographic setting does not improve ROSC. Only 2/152 (1.3%) of victims resuscitated with amiodarone survive to hospital discharge.

14.5 LONG-TERM STUDY OF RADIOFREQUENCY ABLATION EFFECTIVENESS

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The aim of this study was to investigate long-term follow-up results of radiofrequensy catether ablation (RCA) in nonishemic parasystolyc VA's treatment.

Objective and methods: 20 patients (age: 43±2.8) with symptomatic monomorphic nonishemic parasystolyc VA were treated with RCA from 1998 till 2002: 6 had hypertensive disease, 1 – miocarditis, 3 – nonspecific cardiomiopathy, 2 – ARDV, 8 – idiopathic. In most cases focus was in right ventricular. Foloow-up was 6–37 (20.5±7.4) months. ECG, ETT, Holter monitoring were performed every 3 months.

Results: parasystolic mechanism was proved with character features of ECG and isoproterenol inducing. Inspite of 100% RCA efficacy confirmed by provoke protocol, in the first month period it was 80%, 75.0% – in 3 months, 50.0% – in 6 months and 35.0% in period more than 6 months. VA relapses were 100% in repetitive parasystolic VA ($p=0.005$) cases compared to paroxysmal VA.

Conclusions: after 100% effective procedure the RCA efficacy was decreasing. It could be caused by forming of new arrhythmia sites. A repetitive parasystolic VA is associated with increased risk for VA relapse after RCA.

14.6 CATHETER ABLATION OF UNMAPPEABLE VENTRICULAR TACHYCARDIAS IN PATIENTS WITH IMPLANTABLE CARDIAC DEFIBRILLATORS USING A 3D MAPPING SYSTEM

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Background: recent studies have shown that catheter ablation of stable ventricular tachycardias (VT) may serve as a valuable adjunctive measure in post-myocardial infarction (MI) patients with implantable cardiac defibrillators (ICD) and multiple ICD's therapies despite the use of antiarrhythmic drugs (AAD).

Objectives: to determine the efficacy of VT catheter ablation during sinus rhythm using electroanatomical guidance in ICD patients who present with multiple ICD appropriate therapies for stable and unstable VT.

Methods: we analyzed 13 ICD patients (9 male, mean age 54 years) with mean ventricular ejection fraction <35%, submitted to VT catheter ablation using electroanatomical guidance during a mean follow up of 14 months. 8/11 were post-MI patients, 2 presented with idiopathic cardiomyopathy, 3 were chronic chagasic patients (CC) and in 1 patient we diagnosed polimyositis (PM) with no other structural cardiomyopathy. Mapping was performed in sinus rhythm or during right ventricular stimulation by the ICD. Linear radiofrequency applications were developed between the areas of demonstrable fibrosis and the normal myocardial tissue or anatomical obstacles. When mapping of those areas of fibroses was not feasible, TV ablation was performed using the pace-mapping technique. We evaluated the efficacy of our method by substantial reduction (>80%) of ICD appropriate therapies or non-inducibility after the ablation procedure.

Results: endocardial areas of fibrosis were easily identified in post-MI patients, chagasic patients and in polymiositis, whereas those with idiopathic cardiomyopathy had no demonstrable areas of fibrosis. After the procedure, VTs in all 8 post-MI patients were no longer inducible. During the follow up period there was a 90% reduction in ICD therapies of those patients. VT of the patient with polymyosites was not reinducible and this patient did not present with other ICD therapies so far. 2/3 VTs in CC patients were not reinducible. VT was not abolished in the third patient. In one patient with idiopathic cardiomyopathy, VT was not reinducible and also did not present with ICD therapies during the follow up period. VT was reinducible in the other patient with idiopathic cardiomyopathy, although with a different cycle length and the patient did not present with ICD therapies since then. **Conclusion:** linear ablation of VT using an electroanatomical mapping proved useful in modifying VT circuits in ICD patients in which it was possible to identify areas of endocardial fibrosis. However, the method was not useful when dealing with those patients with idiopathic cardiomyopathy and no demonstrable endocardial fibrotic areas.

14.7 VOLTAGE MAP CHANNELS IN PATIENTS WITH ISCHEMIC VENTRICULAR TACHYCARDIA

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Background: endocardial mapping prior to ventricular tachycardia (VT) induction may facilitate the ablation of unmappable VT. Electroanatomical voltage maps have demonstrated the presence of channels in the scar tissue in patientes with SMVT. Nevertheless there are no concluding evidence of this channels as protected conducting isthmus.

Methods: we analyzed the electrophysiological characteristics of the electrograms recorded in Voltage Maps Channel (VMC) identified during right ventricular apex (RVA) pacing in 22 patients (67±9 years) with ischemic