ABSTRACT SECTION

1. **Randomized Trial of Cardiac Resynchronization in Mildly Symptomatic Heart Failure Patients and in Asymptomatic Patients With Left Ventricular Dysfunction and Previous Heart Failure Symptoms. J Am Coll Cardiol, 2008; 52:1834-1843**

Objectives: We sought to determine the effects of cardiac resynchronization therapy (CRT) in New York Heart Association (NYHA) functional class II heart failure (HF) and NYHA functional class I (American College of Cardiology/American Heart Association stage C) patients with previous HF symptoms.

Background: Cardiac resynchronization therapy improves left ventricular (LV) structure and function and clinical outcomes in NYHA functional class III and IV HF with prolonged QRS.

Methods: Six hundred ten patients with NYHA functional class I or II heart failure with a QRS ≥120 ms and a LV ejection fraction _ 40% received a CRT device(±defibrillator) and were randomly assigned to active CRT (CRT-ON; n = 419) or control CRT-OFF; n = 191) for 12 months.The primary end point was the HF clinical composite response, which scores patients as improved, unchanged, or worsened. The prospectively powered secondary end point was LV end-systolic volume index. Hospital ization for worsening HF was evaluated in a prospective secondary analysis of health care use.

Results: The HF clinical composite response end point, which compared only the percent worsened, indicated 16% worsened in CRT-ON compared with 21% in CRT-OFF (p = 0.10). Patients assigned to CRT-ON experienced a greater improvement in LV end-systolic volume index (–18.4 ± 29.5 ml/m^2 vs. –1.3 ± 23.4 ml/m^2, p < 0.0001) and other measures of LV remodeling. Time-to-first HF hospitalization was significantly delayed in CRT-ON (hazard ratio: 0.47, p = 0.03).

Conclusions: The REVERSE (REsynchronization reVErses Remodeling in Systolic left vEntricular dysfunction) trial demonstrates that CRT, in combination with optimal medical therapy (±defibrillator), reduces the risk for heart failure hospitalization and improves ventricular structure and function in NYHA functional class II and NYHA functional class I (American College of Cardiology/American Heart Association stage C) patients with previous HF symptoms. (REsynchronization reVErses Remodeling in Systolic Left vEntricular Dysfunction

2. **Differentiating Junctional Tachycardia and Atrioventricular Node Re-Entry Tachycardia Based on Response to Atrial Extrastimulus Pacing. J Am Coll Cardiol, 2008; 52:1711-1717**

Objectives: The purpose of this study was to differentiate non–re-entrant junctional tachycardia (JT) and typical atrioventricular node re-entry tachycardia (AVNRT).

Background: JT may mimic AVNRT. Ablation of JT is associated with a lower success rate and a higher incidence of heart block. Electrophysiologic differentiation of these tachycardias is often difficult.

Methods: We hypothesized that JT can be distinguished from AVNRT based on specific responses to premature atrial complexes

(PACs) delivered at different phases of the tachycardia cycle: when a PAC is timed to His refractoriness, any perturbation of the subsequent His indicates that anterograde slow pathway conduction is involved and confirms a diagnosis of AVNRT. A PAC that advances the His potential immediately after it without terminating tachycardia indicates that retrograde fast pathway is not essential for the circuit and confirms a diagnosis of JT. This protocol was tested in 39 patients with 44 tachycardias suggesting either JT or AVNRT based on a short ventriculo-atrial interval and apparent AV node dependence. Tachycardias were divided into 3 groups: clinically obvious AVNRT, clinically obvious JT, and clinically indeterminate rhythm.

Results: In the 26 cases of clinically obvious AVNRT, the sensitivity and specificity of the test were 61% and 100%, respectively. In the 9 cases of clinically obvious JT, the sensitivity and specificity were 100% and 100%, respectively. In the 9 cases of clinically indeterminate rhythm, the technique indicated AVNRT in 1 patient and JT in 7 patients, and the test was indeterminate in 1 patient.

Conclusions: The response to PACs during tachycardia can distinguish JT and AVNRT with 100% specificity in adult patients.

(Full articles can be requested at ashishsinha72@yahoo.com)

Medical HUMOR

I am a medical student currently doing a rotation in toxicology at the poison control center.

Today, this woman called in very upset because she caught her little daughter eating ants. I quickly reassured her that the ants are not harmful and there would be no need to bring her daughter into the hospital.

She calmed down, and at the end of the conversation she happened to mention that she gave her daughter some ant poison to eat in order to kill the ants. I told her that she better bring her daughter in to the ER right away.