LARGE PRECORDIAL QRS VOLTAGE IS A FEATURE OF EARLY REPOLARIZATION ON THE ELECTROCARDIOGRAM AND USUALLY DOES NOT DENOTE COEXISTENT LEFT VENTRICULAR ENLARGEMENT. FF Zayed, WH Doghmi, RG Anand, DL Glancy. Sections of Cardiology, Departments of Medicine, Louisiana State University Health Sciences Center and The Medical Center of Louisiana, New Orleans, LA.

INTRODUCTION: Early repolarization (ER) is a seemingly normal electrocardiographic (ECG) variant noted in 1-2% of persons, with male preponderance, age usually < 50 years, regression of the pattern with aging, and normalization with exercise, isoproterenol infusion, or atrial pacing. The ECG manifestations of ER include ST-segment elevation of 1 to 4 mm or more that is concave upward and begins at an elevated J point (usually with a distinct J wave) and is most prominent in the precordial leads, reciprocal ST depression in lead aVR, large-amplitude T waves, and a ST/T ratio of less than 0.25 in lead V6. A precordial QRS transition zone that is abrupt and displaced to the right, U waves, and sinus bradycardia also are often seen. Large QRS voltage in the precordial leads has not been included as a feature of ER in prior reports, but we have noted it frequently. STUDY OBJECTIVE: To establish the prevalence of large precordial QRS voltage in patients with the ECG pattern of ER and to determine whether the large voltage is due to concomitant left ventricular (LV) enlargement (E). METHODS: In a retrospective review of all ECG’s performed between July 1998 and July 2000, the ER pattern was identified 645 pts. After excluding pts < 18 years old and those with ECG’s showing left atrial enlargement, QRS > 0.12 sec, delayed intrinsicoid deflection in V5 or V6, left axis deviation, and the ST-T pattern of LV strain, the Sokolow-Lyon criterion of SV1 + RV5 or RV6 > 35 mm was used too establish the prevalence of large precordial QRS voltage in the remaining 550 pts (89% men, 86% black). Echocardiograms, available in 55 pts (75% men, 87% black, mean age =43), were used to determine the prevalence of concomitant LV hypertrophy (H): ventricular septal or posterior wall thickness > 1.1 cm, dilatation (D): LV end-diastolic internal dimension > 5.4 cm, or LVH or LVD diagnosed on the 2-D study. RESULTS: Among the 550 pts SV1 + RV5 or RV6 was > 35mm in 238 (43%). In the echo subset, among the 24 with SV1 + RV5 or RV6 > 35 mm LVH (1), LVD (2), or LVH on 2-D (1) was found in only 4. Among the 31 with SV1 + RV5 or RV6 35 mm, 4 had LVH. CONCLUSION: Large precordial QRS voltage, meeting criteria for LVE, is common in pts with ER and usually is unaccompanied by echo evidence of LVE.