PREVALENCE OF J WAVE AND EARLY REPOLARIZATION PATTERN AMONG HEALTHY TEENAGERS AND YOUNG ADULTS

ACC Poster Contributions
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Background: J waves and the early repolarization pattern (ERP) are often seen in patients with idiopathic ventricular fibrillation. However, J waves and ERP are also normal variants, particularly in young people. This study investigated the prevalence of J waves and ERP in teenagers and young adults.

Methods: ECGs of 918 middle-, high-school and college students (median age 16 yrs, range 11-20 yrs) with no evidence of structural heart disease were evaluated. Heart rate (HR), QTc, presence of J waves and ERP were compared by age, sex and race.

Results: Overall J waves and ERP were seen in 13% and 21%, with the highest prevalence of ERP among adolescents age 15-17 (Fig 1). Males had a higher prevalence than females of both J waves (17% vs. 7%, p <.001) and ERP (28% vs 10%, p <.001). Subjects with J waves and/or ERP had a slower HR and shorter QTc than those without. African Americans had a higher prevalence of J waves (18%) than Caucasians (10%), Hispanics (11%) and Asians (7%), p < 0.05.

Conclusions: J waves and ERP are prevalent among healthy teenagers and young adults, especially males. J waves are more common in young African Americans. The high prevalence in adolescents and the change over time suggest that J waves and ERP may be related to cardiac development rather than representing arrhythmic substrates.