Core 2. Epidemiology and Prevention of CV Disease: Physiology, Pharmacology and Lifestyle

Session Title: ECG, LVH and Screening Athletes

Abstract 17252: Texas Adolescent Athlete Heart Screening Registry (TAAHSR): a Statewide Screening Study

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Background: Sudden cardiac death (SCD) in athletes, though a rare event, continues to claim lives every year. Optimal athlete screening strategies have proved to be elusive.

Hypothesis: Statewide screening of high school student athletes (SA) for hypertrophic cardiomyopathy (HCM) and other conditions associated with SCD is feasible and establishing a registry may lead to reduction in SCD and improved quality of life. Objective: Identify high school SA at risk for SCD due to presence of HCM and/or other conditions associated with SCD through screening events in the state of Texas, and establish a statewide data bank (registry).

Methods: The target population in this observational screening study included high school age SA who voluntarily presented at screening venues in Texas from March 2010–April 2011. Demographic and cardiac history data, 12–lead ECG and limited two–dimensional echocardiogram (L–ECHO) were obtained on all SA. Studies were read either on site or remotely subsequent to data acquisition. Athletes with positive screenings (SCD–related or other abnormal findings) were referred for complete cardiology evaluation. Follow up data were compared to screening results.

Results: Of 1002 SA screened, 840 agreed to participate in TAAHSR (71% male). Most SA were in grades 9 and 10 (63%), mostly White (55%) or Hispanic (34%). Fifty one percent reported positive at least once in the history. A total of 94 SA (11.2%) had positive screening on ECG (9.6%) and/or L–ECHO (2.1%) and referral was made. Of the 94 SA referred, follow up data were obtained in 91 (98%): Data were still pending at the time in 44 (48%) and complete in 47 (52%). Of the 94, 22 were referred for SCD–related findings: 19 ECG (15 HCM, 3 WPW and 1 Brugada) and 3 L–ECHO (1 HCM, 2 aortic root dilation). Of the 47 SA, screening findings were confirmed in 12 (25%), 3 with WPW (2 underwent ablation) and 1 with LVH considered 'benign' but not HCM.

Conclusion: Establishing a registry with statewide screenings in SA for SCD–related conditions is feasible and longitudinal data to assess effectiveness is highly needed at the present time. To date, 3 SA (0.36%) were identified with SCD–related condition (WPW). Future work on cost–effectiveness analysis is imperative to determine value of widespread SA screening for SCD.