Early Repolarization is Associated with Short QT Syndrome in Italian Cohort

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Background: Early repolarization (ER), defined as an elevated slurring or notching of the QRS-ST junction, or J wave, on electrocardiogram, has recently been linked to malignant ventricular fibrillation. Because ER is common in the general population, however, there is a need to identify when the pattern has prognostic significance. The early repolarization pattern may be associated with arrhythmogenic syndromes, specifically Short QT Syndrome (SQTS), a lethal disorder whose natural history is incompletely characterized.

Methods: .The aims of this retrospective cohort study were to compare the prevalence of early repolarization and characteristics of J waves in SQTS patients and healthy controls, as well as assess whether the early repolarization pattern was associated with arrhythmic events in SQTS patients. The study population included 73 patients diagnosed with Short QT Syndrome and 146 age- and gender-matched healthy controls. Our group of SQTS patients at the Fondazione Salvatore Maugeri in Pavia, Italy represents the largest cohort described thus far. Early repolarization was stratified according to the amount of J point elevation, $\geq$ 0.1 mV or $\geq$ 0.2 mV, in inferior or lateral leads. Symptomatic SQTS patients were defined as those who had experienced syncope or sudden cardiac death.

Findings: The early repolarization pattern with a J point elevation of 0.2 mV or more was more prevalent in the SQTS cohort (16.44%, n=12) than in healthy controls (6.33%, n=10) (odds ratio, 2.892; CI 1.252 to 7.111). Among the SQTS cohort, however, there was no association between early repolarization and history of arrhythmic events. J wave duration with a J point elevation $\geq$ 0.2 mV in both groups of SQTS patients was longer than that of controls (46ms in symptomatic group, 37ms in asymptomatic, and 29ms in controls), but J wave duration was not significantly associated with symptomatic SQTS (p=0.0861). No other significant differences in morphological characteristics of early repolarization were found between symptomatic SQTS, asymptomatic SQTS and health controls.

Interpretation: J point elevations $\geq$ 0.2 mV were associated with SQTS, suggesting this elevation may have greater prognostic significance for arrhythmogenic disorders. The early repolarization pattern itself, however, does not represent a prognostic indicator for SQTS.

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Influence of Smokeless Tobacco Use on Diet and Nutrient Intake among Households in Bangladesh

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Background: Tobacco users on average have less adequate diet as compared to non-users. While the majority of the studies are from developed countries, less is known about the influence of tobacco on dietary composition in developing countries where malnutrition is a major public health challenge. Additionally, the effect of smokeless-tobacco use on dietary composition are unknown.

Methods: We used the nationally representative Household Income Expenditure Survey (HIES-2010) from Bangladesh. Detailed dietary data including both ethnic and regional specific foods were collected for 14 days and comprised of 7 visits with two days' recalls.

Findings: Overall, 71% of the households reported expenditure on tobacco (smoking and/or smokeless), and were considered tobacco users. Out of 12240 households, 2061 used smoking tobacco only (16.8%), 3284 used smokeless tobacco only (26.8%), and 3348 were dual-users (27.4%). After controlling for household expenditure, household size, place of residence, and education, smokeless-tobacco user households consumed significantly lower mean per capita daily total calories (β = -342.88; p < 0.0001) as compared to non-users. Dietary analyses revealed smokeless-tobacco users consumed significantly lower daily mean per capita of vegetables (β = -19.65 g/day; p < 0.0001), milk and dairy (β = -9.81 g/day; p < 0.0001), fish (β = -9.84 g/day; p < 0.0001), meat (β = -10.9360 g/day; p < 0.0001), legumes (β = -3.23 g/day; p < 0.0001), eggs (β = -1.60 g/day; p < 0.0001) as compared to non-users. However, mean per capita daily intakes of cereal products (β = 39.26 g/day; p < 0.0001) was significantly higher among smokeless-tobacco users as compared to non-users. Corresponding to these profound dietary differences, the intake of total dietary protein (β = -10.01 g/day; p < 0.0001), dietary fat (β = -27.55 g/day; p < 0.0001) were significantly lower, and dietary carbohydrate (β = 94.32 g/day; p < 0.0001) was significantly higher among smokeless-tobacco users as compared to non-users.

Interpretation: Smokeless tobacco user households in Bangladesh have poor diets and inadequate nutrient intake as compared to tobacco non-users. The study provides evidence to inform policy for addressing dietary inadequacy and malnutrition burden among smokeless-tobacco user households in Bangladesh.

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New Molecular Evidence of Exposure to Aristolochic Acid in South Korea: Implications for Global Public Health Hazard Linked to Nephrotoxic and Carcinogenic Herbal Medicines

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Background: Aristolochic acid (AA) is a potent nephrotoxin and carcinogen (IARC Group 1) associated with urothelial, hepatobiliary, and renal carcinomas. Exposure to AA from dietary intake of traditional herbal medicines containing *Aristolochia* species poses