

Cardiometabolic risk in community-dwelling persons with chronic spinal cord injury.

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Abstract

PURPOSE:

The purpose of this study was to describe cardiometabolic risk factors and risk clustering in people with spinal cord injury (SCI).

METHODS:

This was a cross-sectional study of 121 subjects aged 18 to 73 years (mean, 37 ± 12 years) with chronic, motor complete SCI between C5 and T12. Assessments included demographic, social, and medical history; physical, anthropometric, and blood pressure assessments; fasting serum assays including total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), triglycerides, and hemoglobin A1c; calculated low-density lipoprotein cholesterol (LDL-C); and an oral glucose tolerance test. Framingham risk scores (FRSs) for each subject were calculated on the basis of Third National Cholesterol Education Program Adult Treatment Panel algorithm.

RESULTS:

According to FRSs, 90.1%, 8.3%, and 1.7% were classified in the low-, medium-, and high-risk groups, respectively. The most prevalent cardiometabolic risk factors were overweight/obesity (74%), elevated LDL-C (64%), low HDL-C (53%), elevated systolic blood pressure (SBP, 33%), and elevated TC (30%). Stratification by level of injury demonstrated significant differences between paraplegic and tetraplegic participants in SBP (120 vs 99 mm Hg, $P = .0001$), 2-hour glucose (101.37 vs 137.93 mg/dL, $P = .0001$), and 2-hour insulin (47.45 vs 94.36 μ U/mL, $P = .024$). In addition, triglycerides, fasting insulin, body mass index, LDL-C, hemoglobin A1c, and insulin resistance were significantly associated with FRS.

CONCLUSIONS:

Ten percent of young people with SCI are at moderate to high risk for long-term hard cardiac events. Overweight/obesity, LDL-C, HDL-C, SBP, and TC were the most prevalent risk factors. Carbohydrate metabolism is preferentially affected in persons suffering from tetraplegia, indicating a need for impairment-specific risk assessment.