COPD In Costa Rican Elder Older Adults and Its Association with Sarcopenia

Article · July 2017

DOI: 10.1093/geroni/igx004.594

3 authors:

Miguel Germán Borda
Stavanger University Hospital
94 PUBLICATIONS **107** CITATIONS
SEE PROFILE

Mario U Perez-Zepeda
Dalhousie University
135 PUBLICATIONS **808** CITATIONS
SEE PROFILE

Carlos Cano
Pontificia Universidad Javeriana
126 PUBLICATIONS **357** CITATIONS
SEE PROFILE

The prevalence of diabetes is expected to rise sharply worldwide in the coming decades, due not only to obesity and sedentary lifestyles, but also to aging per se. Diabetes is associated with a higher incidence of decreased skeletal muscle mass (sarcopenia) and physical disabilities. Sarcopenia and physical disabilities may be due to the combined effects of reduced physical activity, inflammation, obesity and insulin resistance. Further, malnutrition may be frequent in very old diabetic patients, and contribute to the risk of sarcopenia and physical disabilities. At the same time it may paradoxically lead to a "false" improvement in insulin sensitivity and glycemic control, in a phenomenon of reverse causality.

Results were prospectively collected during a case-control study involving 580 consecutively hospitalized patients with a bioimpedance assessment. Age ranged from 70.2 to 101.8 years (84.8 ± 6.2), with 184/396 male/female.

The prevalence of malnutrition, assessed by the Mini Nutritional Assessment (MNA), was similar in diabetic (13.1%) and control patients (11.2%).

Sarcopenia, was previously defined by a Fat Free Mass Index <15.1 kg/m^2 and 17.5 kg/m^2 in European women and men, respectively. Its prevalence in our cohort amounts to 57.2% in the 383 control versus 34.5% in the 197 diabetic patients ($p < 0.0001$). Diabetics were 2.7 years younger and counted more men, but even after adjusting for age and sex in a logistic regression model the odds ratio of sarcopenia remained unchanged at 0.41 (95% CI: 0.28 - 0.59).

COPD IN COSTA RICAN ELDER OLDER ADULTS AND ITS ASSOCIATION WITH SARCOPENIA

M.G. Borda[1], M.U. Perez-Zepeda[2], C. Cano[1], *1. Instituto de envejecimiento, Pontificia Universidad Javeriana, Bogotá, Bogotá, Colombia, 2. Geriatric Epidemiology Research Department, Instituto Nacional De Geriatría, Mexico City, Mexico, Mexico DF, Mexico*

Background: Sarcopenia is associated with to multiples comorbidities, including moreover those with some degree of inflammation. Chronic inflammatory states generate hypercatabolism and replacement of lean muscle mass for adipose tissue, decreasing muscle strength, power and function leading to disability and dependence. Here we study COPD as an important chronic inflammatory disease Strong associations have been reported between COPD and sarcopenia. The aim of this study is to evaluate the associations of COPD and sarcopenia with clinical outcomes, pulmonary function and health status and mortality.

Methods: Data was taken of the CRELES- retirement cohort survey, a longitudinal study taken place in Costa Rica with a representative sample of 2820 elder adults born before 1945. Starting in 2010 with a second wave starting in 2012. The variable 'presence of sarcopenia in patients with COPD' was used to identify associations with independent variables (sociodemographic factors, self-rated health, comorbidities, functional status, cognitive status, pulmonary function, hospitalizations and mortality).

Results: From a total of 2,827 60-year or older adults, 9.83% (n=278) were categorized as sarcopenic. A total of 18.09% referred as having a lung disease, from which 24.82% had sarcopenia (p=0.002). When grouping with sarcopenia and lung disease status, 74.24% did not had any of the conditions, 15.56% had just lung disease without sarcopenia, 7.67% had only sarcopenia without having lung disease and 2.53% had both conditions. The only group that had a higher risk of mortality was that having both conditions, with a hazard ratio of 1.81 (95% CI 1.27–2.58, p=0.001), after adjusting for age and sex.

Conclusions: Older adults with lung disease have a significant higher prevalence of sarcopenia and a higher risk of mortality, than either any of the conditions alone. Special care to older adults with lung disease is important in order to detect sarcopenia and emphasize on those interventions that could impact this condition along with the regular treatment of the lung disease.

This in turn could ameliorate prognosis of older adults with both conditions.

CARDIOVASCULAR AND NON-CARDIOVASCULAR MULTIPLE CHRONIC CONDITIONS AND OUTCOMES IN OLDER ADULTS

H. Sheriff[1], C. Arundel[1], M.R. Blackman[1], Q. Zeng[1,4], C.S. Ritchie[2], T.E. Edes[3], R. Allman[3], A. Ahmed[1], *1. VA Medical Center, Washington, District of Columbia, 2. UCSF, SF, California, 3. Veterans Health Administration Geriatrics and Extended Care Services, Washington, District of Columbia, 4. GW University, Washington, District of Columbia*

Background: Multiple chronic conditions (MCC) are common in older adults and often underlie poor health and outcomes. 14% of Medicare beneficiaries with ≥6 MCCs account for 70% of readmissions. We examined impact of cardiovascular (CV) and non-CV MCCs on outcomes in community-dwelling older adults.

Methods: Of 5795 Cardiovascular Health Study (CHS) participants age ≥65 years, 375, 955, 1409, 1253, 858, 536, 245, 115, 35, 10 and 4 had 0 to 10 MCCs, respectively based on 8 CV and 7 non-CV MCCs. Multivariable Cox regression models were used to estimate HRs associated with any MCCs, CV MCCs, and non-CV MCCs, adjusting for 25 baseline characteristics.

Results: One-year hospitalization occurred in 7%, 11%, 14%, 17%, 21%, 30%, 31%, 40%, 46%, 50%, and 25% of those with 0 to 10 MCCs (HR associated with each MCC increase, 1.20; 95% 1.15–1.25). Respective rates for one-year mortality were 0.3%, 0.2%, 0.7%, 1.0%, 2.8%, 3.7%, 5.3%, 7.0%, 20.0%, 20.0%, and 25.0% (HR associated with each MCC increase, 1.41; 95% 1.25–1.59). HRs for one-year hospitalization and mortality associated with each CV MCC increase were 1.16 (95% 1.09–1.22) and 1.31 (95% 1.12–1.54), respectively. HR for one-year hospitalization and mortality associated with each non-CV MCC increase were 1.19 (95% 1.12–1.26) and 1.50 (95% 1.26–1.79), respectively.

Conclusion: Among community-dwelling older adults, number of MCCs had a significant independent association with both hospitalization and mortality. CV and non-CV MCCs generally had similar associations with hospitalization, though non-CV MCCs appeared to have stronger association with mortality.