

# DYNAPENIC ABDOMINAL OBESITY, CARDIOVASCULAR RISK PROFILE AND CLINICAL FEATURES IN PATIENTS WITH PARKINSON'S DISEASE

Authors:

**Barichella M. (1 2)**, Cereda E. (2 3), Ferri V. (2), Bolliri C. (2), Caronni S. (2), Macchione M.C. (2), Giuffrida M.F. (1), Alessi G. (1), Sorrentino F. (1), Francese A.W. (2), Isaias I.U. (1), Sacilotto G. (1), Zini M. (1), Calandrella D. (2), Del Sorbo F. (1), Pezzoli G. (2)

Affiliations

1. Parkinson Institute, ASST Gaetano Pini-CTO, 20126 Milan, Italy.
2. Fondazione Grigioni per il Morbo di Parkinson, 20126 Milan, Italy.
3. Clinical Nutrition and Dietetics Unit, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy.

## INTRODUCTION

Previous studies have shown a lack of correlation between cardiovascular (CV) risk parameters and visceral adiposity and a favorable body composition and CV profile independently of nutritional status in patients with Parkinson's Disease (PD). However, recent literature has suggested that abdominal obesity associated with dynapenia – highly prevalent in PD – is responsible for higher CV risk but also disability and impaired quality of life (QoL).

## MATERIALS AND METHODS

In a cross-sectional study (n=163 [74 women and 89 men]; mean age, 68.4 years; mean disease duration, 9.3 years) including inpatients (Department of Neurology-Center Parkinson and Movement Disorders of the ASSt-Pini-Cto; Milan, Italy) with PD or atypical parkinsonism, we investigated the association between dynapenic abdominal obesity and CV risk parameters, disease severity, QoL (by Parkinson's Disease Questionnaire [PDQ-39]) and fatigue (by Parkinson's Disease Fatigue Scale [PFS-16]).

## RESULTS

Abdominal obesity by waist circumference (WC) was found in 76 patients (46.6%; 34 women [WC>88 cm; 45.4%] and 42 men [WC>102 cm; 54.6%]). Dynapenia by handgrip strength (HS) was diagnosed in 93 patients (57.1%; 40 women [HS<16 kg; 45.4%] and 53 men [HS<27 kg; 54.6%]). Only 40 patients (24.5%) presented neither abdominal obesity nor dynapenia, while 46 patients (28.2%) were found to have dynapenic abdominal obesity. Dynapenia was associated with higher age (P=0.026) and fatigue (P=0.008) and more impaired QoL (P=0.001). Patients with dynapenia presented also lower total and LDL cholesterol levels (P=0.001 and P=0.010, respectively). Abdominal obesity was associated with higher triglycerides and C-reactive protein levels (P=0.039 and P=0.050, respectively). However, for all these association no significant interaction between abdominal obesity and dynapenia was detected. No association with disease severity (UPDRS-part III scale and Hoehn-Yahr stage) was observed, neither with dynapenia nor with abdominal obesity.

## CONCLUSIONS

Dynapenia was associated higher fatigue (P=0.008) and more impaired QoL but not with higher CV risk profile. Besides, its combination with abdominal obesity is not responsible for more substantial impairment. However, prospective studies are needed to disclose any potential impact on the progression of clinical parameters and CV risk or any impact on CV outcomes.