BRAIN AND MALNUTRITION
Chronic Diseases Association ETS

NEWSLETTER 33 - 2024

Inizia il COUNTDOWN del

B&M e **Fondazione Grigioni** parteciperanno con due **Poster** e una **Presentazione orale**

46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

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

A. GENOVESI*[1,2], E. CEREDA[3], S. CARONNI[1,4], V. FERRI[4], C. BOLLIRI[1,4], A. NATALE[2,4], M. BARICHELLA[1,4], G. PEZZOLI[4]

[1]Clinical Nutrition Unit ASST-Pini-CTO, [2]University of Milan, Milano, [3]Clinical Nutrition and Dietetics Unit, Fondazione IRCCS Policlinico San Matteo, Pavia, [4]Fondazione Grigioni per il Morbo di Parkinson, Milano, Italy

P179

Background

Recent research has pointed out a correlation between dynapenic abdominal obesity (DAO) and cardiovascular risk (CR) related to anthropometry in patients with Parkinson's Disease (PD). Starting from this, we investigated the relationship between DAO and alterations in CR blood parameters.

Methods

We enrolled 163 patients diagnosed with idiopathic PD or parkinsonism at the Department of Neurology-Center Parkinson in Milan. We assessed the association between DAO – defined using waist circumference for abdominal obesity and handgrip strength for dynapenia – and CR factors. Statistical analyses were conducted using general linear models and chi-square tests. We addressed the associations between DAO, blood parameters, disease severity, quality of life (QoL), and fatigue.

Results

Abdominal obesity was present in 46.6%, while dynapenia was diagnosed in 57.1%. Dynapenia correlated with higher age (p=0.026), fatigue (p=0.008), and impaired QoL (p=0.001). Abdominal obesity was associated with elevated serum triglycerides (p=0.039) and C-reactive protein levels (p=0.050). For all these associations no significant interaction between abdominal obesity and dynapenia was detected. No association between dynapenia, abdominal obesity and disease severity was observed.

Criterion	EWGSOP-1 cut-off points	EWGSOP-2 cut-off points
Handgrip strength	Men: <30 kg Women: <20 kg	Men: <27 kg Women: <16 kg
Muscle mass BIA	SM/height^2 Men: 8.87 kg/m^2 Women: 6.42 kg/m^2	ASM/height^2 Men: <7.0 kg/m^2 Women: <5.5 kg/m^2
Gait speed	<0.8 m/s	≤0.8 m/s

EWGSOP, European working group for sarcopenia in older people; BIA, bioelectrical impedance analysis; SM, skeletal muscle; ASM, appendicular skeletal muscle.

Indicator	Cut-off points	Risk of metabolic complications
Waist circumference	>94 cm (M); >80 cm (W)	Increased
Waist circumference	>102 cm (M); >88 cm (W)	Substantially increased
Waist-hip ratio	≥0.90 cm (M); ≥0.85 cm (W)	Substantially increased

M, men; W, women

WHO cut-off points for waist circumference and waist-to-hip ratio and risk of metabolic complications in adults

Conclusions

Our findings underscore the clinical significance of muscle dysfunction and abdominal obesity in patients with PD. Despite the absence of a significant interaction between abdominal obesity and dynapenia, both factors independently impact cardiovascular health and QoL. Tailored intervention strategies should be considered accordingly and tested in pertinent studies.

SCAN ME!

ESPEN The European Society for Clinical Nutrition and Metabolism

46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

This work was supported by «Fondazione Grigioni per il Morbo di Parkinson.» and «Brain and Malnutrition in Chronic Diseases Association»

Contact information

www.parkinson.it
www.bm-association.it

46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

METFORMIN USE IS ASSOCIATED WITH REDUCED MORTALITY RISK IN DIABETIC PATIENTS WITH PARKINSON'S DISEASE

Poster Session 2 - Nutritional intervention studies

P858

EMANUELE CEREDA MD, PHD *[1], MICHELA BARICHELLA MD[2,3], DANIELA CALANDRELLA MD[3,4], SALVATORE BONVEGNA MD PHD [3], IOANNIS U. ISAIAS MD, PHD[3,5], GIANNI PEZZOLI MD[3,4],

1. Clinical Nutrition and Dietetics Unit, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy; 2. Clinical Nutrition Unit, ASST-Pini-CTO, Milan, Italy; 3. Parkinson Institute Milan, ASST G.Pini-CTO, via Bignami 1, Milan, Italy
4. Fondazione Grigioni per il Morbo di Parkinson, Milan, Italy; 5. Department of Neurology, University Hospital of Würzburg and Julius Maximilian University of Würzburg, Würzburg, Germany.

RATIONALE

Parkinson's disease (PD) and type-2 diabetes (T2D) arguably share pathophysiologic mechanisms (e.g. mitochondrial dysfunction, inflammation, oxidative stress, etc.), resulting in a more severe phenotype and progression and diabetes is currently considered a risk factor of PD. Besides, research suggests antidiabetic therapies as potential disease-modifying strategies. We studied the impact of a metformin-inclusive antidiabetic treatment on PD prognosis.

METHODS

A nested case-control study [Figure 1] including newly diagnosed PD patients reporting the onset of T2D within ±2 years from the onset of PD (n=159) and matched (1:5; gender, year of PD onset [±1 year] and age at PD onset [±1 year]) non-diabetic cases (n=795) followed until death or censoring. The study endpoint was all-cause mortality. Patients on a metformin-inclusive treatment regimen were compared to those receiving other oral anti-diabetics (OADs).

RESULTS

Among patients with T2D, 123 were treated with drug regimen containing metformin (alone [65.0%] or in combination with other drugs [35.0%]) and 36 were prescribed other OADs [Table 1 and 2]. During a median PD duration of 96 months [IQR, 60-144], 171 patients died. Diabetes was not associated with reduced survival: fully-adjusted HR=1.19 [95%CI, 0.81-1.76] (P=0.37). After stratifying for T2D treatment, a metformin-inclusive regimen was not associated with increased risk of death (HR=1.06 [95%CI, 0.61-1.84]; P=0.83), while patients receiving other OADs had reduced survival (HR=1.83 [95%CI, 1.01-3.32]; P=0.034) [Table 3].

Figure 1. Study flow.

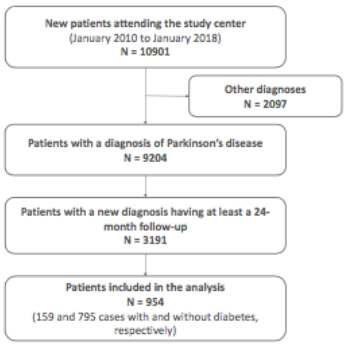

Table 1. Demographic and clinical features of the nested case-control study population (N=954) by diagnosis

Feature	Idiopathic PD patients with diabetes (N=159)	Idiopathic PD patients without diabetes (N=795)	P-value
Male gender, N (%)[a]	107 (67.3)	535 (67.3)	0.99
Positive family history of PD, N (%)[a]	15 (9.4)	86 (10.8)	0.67
Education, years [Mean (SD)]	9.3 (4.1)	10.9 (4.6)	<0.001
Previous/current smoker, N (%)	16 (10.0)	73 (9.2)	0.76
Age at PD onset, years [Mean (SD)] [a]	64.4 (8.9)	64.4 (8.9)	0.99
Age at diabetes onset, years [Mean (SD)]	63.9 (8.8)	--	--
Body mass index, kg/m^2 [Mean (SD)]	28.0 (4.5)	25.6 (3.9)	<0.001
Hypertension, N (%) [b]	92 (57.9)	327 (41.1)	<0.001
Heart disease, N (%) [b]	46 (28.9)	163 (20.5)	0.021
Stroke, N (%) [b]	8 (5.0)	29 (3.6)	0.37
Cancer, N (%) [b]	23 (14.5)	119 (15.0)	0.99
Metformin-inclusive regimen, N (%)	123 (77.4)	--	--

[a] Matching criterion; [b] At inclusion or during follow-up

Table 2. Demographic and clinical features of PD diabetic patients by T2D treatment regimen

Feature	Metformin-inclusive (N=123)	Other OADs (N=36)	P-value
Male gender, N (%)[a]	82 (66.7)	25 (69.4)	0.84
Positive family history of PD, N (%)[a]	11 (8.9)	4 (11.1)	0.75
Education, years [Mean (SD)]	9.0 (4.0)	10.3 (4.4)	0.096
Previous/current smoker, N (%)	12 (9.8)	4 (11.1)	0.76
Age at PD onset, years [Mean (SD)] [a]	64.3 (9.0)	64.6 (8.9)	0.86
Age at diabetes onset, years [Mean (SD)]	63.8 (8.8)	64.3 (8.9)	0.77
Body mass index, kg/m^2 [Mean (SD)]	28.4 (4.6)	27.8 (4.5)	0.49
Hypertension, N (%)	72 (58.5)	20 (55.6)	0.85
Heart disease, N (%)	34 (27.6)	12 (33.3)	0.53
Stroke, N (%)	6 (4.9)	2 (5.6)	0.99
Cancer, N (%)	15 (12.2)	8 (22.2)	0.17

Abbreviations: OADs, oral antidiabetics.

Table 3. Mortality according to diabetes and related treatment regimen.

Feature	Crude HR [95%CI]	P-value	Fully-adjusted [a] HR [95%CI]	P-value
Metformin-inclusive regimen	1.11 [0.70-1.76]	0.67	1.06 [0.61-1.84]	0.83
Other OADs	1.93 [1.05-3.57]	0.025	1.83 [1.01-3.32]	0.034

Abbreviations: **HR [95%CI]**, hazard ratio and 95% confidence interval; **OADs**, oral anti-diabetics.
[a] Adjusted for sex, age at onset of PD, positive family history of PD, education, current smoking, hypertension, heart disease, stroke and cancer..

CONCLUSIONS

Metformin use was not associated with increased risk of death in diabetic patients with PD reporting concomitant onset of the two diseases. Metformin appears to be a promising disease-modifying therapy given also the preclinical background, low cost and satisfactory safety and tolerability. Further studies are warranted to investigate its impact on disease progression.

ESPEN The European Society for Clinical Nutrition and Metabolism

46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

• PRESENTING AUTHOR: Emanuele Cereda M.D., Ph.D.,
• E-mail: e.cereda@smatteo.pv.it

Sarcopenia and pre-sarcopenia in patients with parkinsonian syndromes: relationship with cognitive functions, disease-related fatigue and quality of life

Dott. Alessio Genovesi

UOS Nutrizione clinica ASST CTO-Pini
University of Milan

CLICCA QUI PER VISUALIZZARE IN ANTEPRIMA I NOSTRI LAVORI

SEGUICI SUI NOSTRI SOCIAL