Prevalence of Sexual Dysfunction among Postmenopausal Women with and without Metabolic Syndrome

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ABSTRACT

Introduction. The metabolic syndrome (MetS) is a multifactorial disease characterized by the co-occurrence of impaired glucose tolerance/diabetes, central obesity, high levels of triglycerides, low levels of high-density lipoprotein, and hypertension. Its prevalence is higher in menopausal women. We, and others, have recently shown that female sexual dysfunction (FSD) affects menopausal women. Whether the presence of MetS may be linked to a higher risk of FSD in menopausal women is unknown.

Aims. The aims of our study were: (i) to evaluate the prevalence of FSD in women with MetS (based on National Cholesterol Education program-Adult Treatment Panel III 2009 criteria) in comparison with healthy controls and (ii) to evaluate the influence of singular components of MetS on female sexual function.

Methods. The Female Sexual Function Index (FSFI) questionnaire, the Female Sexual Distress Scale (FSDS), and The Middlesex Hospital Questionnaire were administered to 103 postmenopausal women with MetS and 105 healthy postmenopausal controls (HC). Female sexuality was defined as dysfunctional when FSFI score was <23 and FSDS was >15.

Main Outcome Measures. FSFI and FSDS were completed by women with and without MetS.

Results. The prevalence of women with sexual dysfunction was higher in MetS women than HC (39/103 [37.9%] vs. 20/105 [19%], $P = 0.003$). The prevalence of both pathological scores in every FSFI domain and FSDS score was higher in MetS women than HC. The logistic regression, considering age and the length of relationship as a common starting point, shows that higher levels of triglycerides are linked to a higher risk of presenting FSD (odds ratio = 2.007 95% confidence interval [1.033–3.901]) in the whole population.

Conclusions. Our preliminary results suggest that prevalence of FSD is higher in women with MetS in comparison with healthy controls. Higher levels of triglycerides are linked to a higher risk of presenting FSD. **Martelli V, Valisella S, Moscatiello S, Matteucci C, Lantadilla C, Costantino A, Pelusi G, Marchesini G, and Meriggiola MC. Prevalence of sexual dysfunction among postmenopausal women with and without metabolic syndrome. J Sex Med 2012;9:434–441.**

Key Words. Sexual Dysfunction; Metabolic Syndrome; FSFI; FSD; Tryglicerides; Blood Pressure

Introduction

Menopause is a complex period of transition associated with hormonal, physical, psychological as well as social adjustments [1–3]. These changes, together with those associated with aging, result in modifications of sexual function that may be compatible with sexual dysfunction, even if the personal distress linked to sexual life during menopause appears to be lower than in premenopausal life [4–6].

Among the important physical changes that affect areas of women's health occurring with both menopause and age, blood pressure increase,

weight gain with accumulation of fat in the central region, changes of lipids toward an atherogenic profile, and increased diabetes occurrence are included [7–10]. As a result of these modifications, the postmenopausal status is associated with an increased risk of metabolic syndrome (MetS) [11–13].

Although limited data are available, there seems to be a relationship between the MetS and its components and female sexual dysfunction (FSD) [14–17]. Biological as well as social and psychological factors are possible mechanisms that may contribute to sexual problems in these conditions.

Aims

The aim of our study was to evaluate the prevalence of FSD in women with MetS with no other comorbidities in comparison with healthy controls (HCs). We also evaluated which factor, among the National Cholesterol Education program-Adult Treatment Panel III 2009 (NCEP-ATP III) criteria for MetS [18] and a sequence of demographic information collected in our study, has a major impact on sexual life in this group of postmenopausal women.

Methods

Population

Two hundred and eight postmenopausal women aged between 50 and 65 years were asked to voluntarily complete questionnaires. Women were selected from patients who attended the Clinic of Gynecology at S. Orsola Hospital for regular gynecological checkups (women with gynecological pathologies were excluded) and from patients attending the centre of Metabolic Disease and Clinical Dietetics of S. Orsola Hospital who came for the first time or for the first control before starting any treatment. Menopausal status was defined as follicle-stimulating hormone (FSH) > 50 IU/L, estradiol < 20 pg/mL, and amenorrhea for at least 1 year spontaneously intervened [19].

All women were asked to complete brief questionnaires for socio-demographic and marital profiles, personal health, and medical history. Exclusion criteria included presence of depressive syndrome with or without therapy with antidepressive drugs, current or prior use of blood pressure medication, major health problems, and body mass index (BMI) >30. Women receiving hormone replacement therapy were excluded.

Women were defined as smokers if they were current or prior smokers and their history of smoking had lasted for at least 1 year.

The diagnosis of MetS exists when at least three of the five risk factors are present.

Inclusion criteria for both groups included menopausal status and willingness to complete the questionnaires.

Exclusion criteria for both groups were: premenopausal status, hormonal replacement therapy, untreated hypothyroidism, important comorbidities, and drug intake (except for thyreotropin intake in hypothyroid patients).

Our population was then divided into two groups: the first group consisted of 103 women with MetS and the second group consisted of 105 HCs. The diagnosis of MetS was confirmed using the NCEP-ATP III criteria (2009) [19]:

- waist circumference > 88 cm;
- blood pressure > 130/85 mm Hg;
- glycemia > 100 mg/dL;
- tryglicerides > 150 mg/dL;
- high-density lipoproteins (HDLs) < 50 mg/dL.

The S. Orsola Hospital-University of Bologna Ethics committee approved the present study, and all women signed a written consent form.

Assessment of Sexual Function

Women were asked to complete two validated questionnaires to evaluate sexual function and sexual distress related to sexual activity. Women were assured that the questionnaires were anonymous.

The Female Sexual Function Index (FSFI) is a multidimensional self-assessment questionnaire for evaluating sexual function in women. A final score obtained by adding the six domain scores, equal or lower than 23, is suggestive of an alteration in sexual function. Each domain is considered dysfunctional when the corresponding score is equal to or lower than 4.3 [20–22]. The Female Sexual Distress Scale (FSDS) is a 12-item self-assessment questionnaire for the evaluation of sexually related personal distress. A final score higher than 15 is indicative of a high level of distress related to sexual life [23,24].

A sexual problem of each domain of sexual function was considered distressing if associated with personal distress (FSDS score of 15 or more) in accordance with American Psychiatric Association guidelines [25]. Demographic information, medical conditions, and marital status were assessed using specific questions delivered by our staff doctors.