



ORIGINAL ARTICLE

Prevalence of metabolic syndrome and its association with lower urinary tract symptoms and sexual function[☆]

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KEYWORDS

Metabolic syndrome;
Lower urinary tract
symptoms;
Erectile dysfunction;
Obesity;
Diabetes mellitus
type 2

Abstract

Objectives: To estimate the frequency of metabolic syndrome (MetS) in a daily urology practice and to determine its association with lower urinary tract symptoms (LUTS) and erectile dysfunction (ED).

Material and methods: A retrospective study was conducted. Data from all male patients aged ≥ 40 years who attended our outpatient urology clinic from 2010 to 2011 was collected. Prevalence of MetS was determined, and LUTS and ED were assessed. A logistic model was used to determine possible associations, controlling for confounders and interaction factors.

Results: A total of 616 patients were included. MetS was observed in 43.8% (95% CI 39.6–48.3). The bivariate model showed an association between MetS and LUTS ($p < 0.01$), but not between MetS and ED. The logistic model showed an association between MetS and the International Prostate Symptom Score (IPSS), while controlling for other variables. Patients exhibiting moderate LUTS had a greater risk for MetS than patients with mild LUTS (OR 1.83, 95% CI 1.14–2.94). After analyzing for individual components of MetS, positive associations were found between diabetes and severe LUTS (OR 1.3, 95% CI 1.24–7.1), and between diabetes and ED (OR 2.57, 95% CI 1.12–5.8).

Conclusion: This study was able to confirm an association between MetS and LUTS, but not for ED. Specific components such as diabetes were associated to both. Geographical differences previously reported in the literature might account for these findings. Given that MetS is frequent among urological patients, it is advisable that urologists actively screen for it.

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PALABRAS CLAVE

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Disfunción eréctil;
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2

Prevalencia del síndrome metabólico y su asociación con síntomas del tracto urinario inferior y función sexual

Resumen

Objetivos: Estimar la frecuencia de síndrome metabólico (SMet) en la consulta urológica ambulatoria y su asociación con los síntomas del tracto urinario inferior y la disfunción eréctil.

Material y métodos: Estudio retrospectivo que incluyó a todos los hombres de ≥ 40 años que consultaron ambulatoriamente entre 2010 y 2011. Se calculó la prevalencia de SMet, síntomas del tracto urinario inferior y disfunción eréctil. Se utilizó un modelo logístico para comprobar posibles asociaciones, controlando por interacciones y factores de confusión.

Resultados: Se incluyeron 616 pacientes. Se encontró SMet en el 43,8% (IC 95%: 39,6-48,3) de los pacientes. El análisis bivariado demostró una asociación entre SMet y síntomas del tracto urinario inferior ($p < 0,01$), pero no con disfunción eréctil. El modelo logístico demostró una asociación independiente entre SMet y la severidad de los síntomas urinarios por puntuación en el IPSS, siendo mayor el riesgo de SMet en aquellos con síntomas moderados que con síntomas leves (OR: 1,83; IC 95%: 1,14-2,94). Se analizaron por separado los diferentes componentes del SMet y se encontraron asociaciones positivas entre diabetes, síntomas severos (OR: 1,3; IC 95%: 1,24-7,1) y disfunción eréctil (OR: 2,57, IC 95%: 1,12-5,8).

Conclusión: Se confirmó la asociación entre SMet y síntomas del tracto urinario inferior, pero no para disfunción eréctil. La diabetes, un componente específico del SMet sí se asoció con ambas condiciones. Las diferencias geográficas previamente reportadas en la literatura podrían explicar estos resultados. Debido a que el SMet es frecuente entre los pacientes urológicos, un tamizado activo por parte de los urólogos es recomendable.

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Introduction

The metabolic syndrome (MetS) is characterized by a systemic inflammatory state that leads to abnormal tissue remodeling and to a number of metabolic disorders, in which endothelial dysfunction is one of the earliest manifestations.¹ It incorporates several abnormalities including glucose intolerance, dyslipidemia, hypertension and obesity, and therefore constitutes a set of risk factors for Type 2 diabetes mellitus and cardiovascular disease.

Bladder-emptying problems in both sexes are also a common manifestation. This, coupled with a rising life expectancy of the population, has led to urologists often having to face these conditions. It can be predicted that the population of patients with lower urinary tract symptoms (LUTS) will increase significantly worldwide and up to 50% over the next 10 years in Latin America.² Certain studies have shown an association between MetS, LUTS and erectile dysfunction (ED) particularly. However, results seem contradictory, which could be explained in part due to variability in the prevalence of such conditions. Patients with increased cardiovascular risk score higher in scales measuring LUTS severity like the American Urological Association Symptom Score (also called International Prostate Symptom Index, IPSS).³ Similarly, the association of MetS with ED is probably due to factors altering hemodynamic mechanisms that are present in both conditions. In fact, ED can be an early marker for vascular disease.⁴

The aim of this study is to estimate the prevalence of MetS in men aged 40 and older consulting a urological outpatient clinic, and to assess its relationship to LUTS and ED.

Material and methods

Ensuing Institutional Review Board approval and conforming to the provisions of the Declaration of Helsinki, a retrospective study was conducted. Medical records were reviewed and data from all men aged 40 and older who attended our urology outpatient clinic from January 1st, 2010 to January 31st, 2011 were collected. Patients with a history of surgical treatment for ED, bladder tumors, prostate surgery, or undergoing pharmacological treatment for prostate cancer were excluded. The IPSS and the International Index of Erectile Function (IIEF) questionnaires (validated in Spanish) are consistently applied to every male patient visiting our clinic. Additionally, all patients underwent waist circumference measurements, and past medical history of diabetes and hypertension was elicited and noted. Cardiovascular risk screening and metabolic tests are performed on a regular basis in our clinic, as part of a multidisciplinary approach. The information was recorded in a digital database and in the medical record independently, as to ensure proofreading.

- Diagnosis of MetS was made according to the joint interim statement of the International Diabetes Federation Task Force on Epidemiology and Prevention; National Heart, Lung, and Blood Institute; American Heart Association; World Heart Federation; International Atherosclerosis Society; and International Association for the Study of Obesity,⁵ when three or more of the following criteria were met:
- Increased abdominal perimeter: men ≥ 90 cm

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