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OAB AND METABOLIC SYNDROME' STIGMATA (OVERWEIGHT + HYPERTENSIVE DISORDERS): A ROLE FOR DETRUSOR OVERACTIVITY? RETROSPECTIVE ANALYSIS OVER 388 URODYNAMIC STUDIES

Hypothesis / aims of study

Metabolic Syndrome (MetS) is defined as the accumulation of visceral fat with lifestyle-related diseases associated with abnormalities in glucose metabolism, dyslipidemia, and hypertension. Obesity and hypertensive disorders are therefore key factors in the diagnosis of MetS, but at the same time they have complex links with LUTS and particularly OAB[1].
The underlying pathophysiology of OAB is poorly understood, however it is known to include abnormalities in the detrusor muscle, the urothelium, and central mechanisms disorders. The impact of metabolic disorders on LUT function is far from being elucidated and to the best of our knowledge so far no studies have investigated the correlation with Detrusor Overactivity (DO).
The aim of our study was to retrospectively analyze a dataset of women complaining of LUTS with urodynamic studies (UDS) looking for a possible correlation between MetS' stigmata (overweight + hypertensive disorders) and OAB, and secondly to investigate the distribution of DO in this subset of population.

Study design, materials and methods

Clinical records of consecutive women undergoing UDS testing for LUTS at our Institution between 2014 and 2016 were reviewed. Women with positive history of recurrent urinary tract infections (UTI) were excluded. Standardised definitions for Overweight (BMI ≥ 25.0)[2] and OAB[3] have been adopted. *Overweight* women with additional history of hypertensive disorder under treatment (MetS' stigmata) were selected and correlation with OAB syndrome was investigated. The distribution of DO (UDS diagnosis of pure DO and Mixed Incontinence) was then analyzed. All the data were collected in a specifically designed database and statistical analysis was performed using Stata 9.0 software (Stata Corporation, College Station, Texas, USA). A p value < 0.05 was considered for significance.

Results

After excluding women complaining of UTI the final database included 388 women [mean age 59 yrs (range 19-88 yrs), mean BMI 25.8 (range 13.4-39.5), 10% nulliparae, 28% 1para and 62% multiparae, 70% in menopause]. On the basis of symptom complaints 241 of them have been classified as women with OAB syndrome, while 57 presented MetS' stigmata.
OAB was observed in 84.4% of women with Mets' stigmata, while this association was observed in 63.1% of women without (Fisher's exact test p=0.001). Among 241 OAB women DO was observed in 61.7% of women with overweight and hypertension and in 56.9 of women without MetS' stigmata ($p=0.336$). Similarly in NON OAB women DO in the MetS' stigmata group vs women without was observed respectively in 50.0% vs 33.0% ($p=0.271$).

Interpretation of results

Stigmata of MetS and more in detail overweight in combination with hypertensive disorders are significantly correlated with OAB syndrome in our population of women with LUTS. However our data seem to exclude a bladder motor component, since no correlation was observed between the diagnosis of DO and MetS' stigmata both in OAB and in NON OAB patients.

Concluding message

Our data supports the correlation between OAB and MetS reported in the literature. Nevertheless it would appear that abnormal bladder motor component play a minor or no role in the pathogenesis. Further investigation is needed to confirm our preliminary observation.

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