

URODYNAMICS PARAMETERS AND METABOLIC SYNDROME: PROSPECTIVE PILOT STUDY

Hypothesis / aims of study

Metabolic syndrome (MetS) is a worldwide and complex disorder with a severe socioeconomic impact due to the high rate of morbidity and mortality [1]. Metabolic syndrome (METs) is defined by the International Diabetes Federation as a “cluster of the most dangerous heart attack” risk factors. METs would not only increase the risk of cardiovascular disease, but represents a significant risk factor for cancers HPV infection, erectile dysfunction, and death [2]. Also in urology, a significant amount of epidemiological evidence indicates a possible association between MetS and several disorders like male hypogonadism, erectile dysfunction and infertility. Furthermore male patients with MetS seems to reveal a higher incident of low urinary tract symptoms (LUTS) due to development of benign prostate enlargement (BPE)[3]. Moreover, in literature have been underlined the correlation between METs and the pathophysiology of overactive bladder (OAB). The aim of our study was to evaluate the correlation between METs and urodynamic parameters in a cohort of 81 female patients with lower urinary tract symptoms (LUTS).

Study design, materials and methods

We prospectively enrolled 81 female patients affected by LUTS in two Italian academic centers.

All patients were > 18 yrs and presented a history of LUTS with or without incontinence. Patients with neurologic diseases, oncologic disease, previous radio/chemotherapy or pelvic organ prolapse were excluded from the analysis.

All the patients were evaluated with: urological history, bladder diary, blood values (not older than 6 months) and a complete urogynecological and general examination including waist circumference.

All data were recorded in a database.

All patients underwent urodynamic evaluation according to the ICS Good Urodynamic Practice. Continuous normally distributed variables were reported as mean values and SD; chi square was used to compare categorical data and a $p < 0.05$ was considered to indicate statistical significance.

Results

According to the IDF Guidelines, 12 female patients was affected by Metabolic syndrome.

Regarding LUTS, 28 pts were affected by stress urinary incontinence and 20 by urge incontinence; mean pads per day/used was 1.8 (Table I).

At urodynamic evaluation, mean cystocapacity was 386.5 cc and first desire presented at 156 cc; 61 pts showed, moreover, a detrusor overactivity.

With regard to preoperative evaluation, presence of prolapse of any type or stress urinary incontinence did not showed a METs correlations ($p > 0.05$); on the contrary, the presence of urge incontinence was related with METs ($p 0.03$).

Interpretation of results

The literature regarding MetS and OAB or LUTS in women is sparse and with limited evidences, but METs is considered a predictor of lower urinary tract symptoms in female patients.

A recent systematic review suggests, moreover, that there may be important links between MetS and OAB and components of MetS such as obesity [6].

In our pilot study, we observed a correlation between METs and urge incontinence.

In this pilot study the group size is too small to underline strong evidence but a correlation between OAB and METs could be hypothesized.

Concluding message

In literature MetS is a risk factor for OAB. We observed a correlation between METs and urge incontinence. Further larger RCTs are needed to confirm and validate our observations.

Table I Clinical characteristics of the patients

Clinical data	Mean	DS
HDL (mg/dL)	54.6	16.9
Triglycerids (mg/dL)	113.7	54.6
Fasting glucose (mg/dL)	101.4	25.7
Diastolic Press (mm/Hg)	77.7	10.4
Sistolic pressure (mm/Hg)	124.9	16.7
Waist (cm)	82.8	11.8
Urethral lenght (mm)	19.5	9.6
Volume voided (ml)	299.6	170.3
First desire (ml)	156.0	98.8
Normal desire (ml)	224.4	113.4
Strong desire (ml)	307.9	130.9
Cysto Capacity (ml)	386.5	149.9
Q max (ml/sec)	15.0	9.5
Pad/day (n)	1.8	2.2
Age (years)	62.5	13.4

References

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Disclosures

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