INTRODUCTION AND OBJECTIVES: Metabolic syndrome (MS), a constellation of obesity and related risk factors for cardiovascular disease, is an expanding epidemiological concern in the United States and the developed world. The relationship between MS and prostate cancer remains to be definitively assessed. We evaluated the association between obesity and MS with prostate cancer pathology, surgical outcomes, and oncologic control.

METHODS: 2,641 patients underwent robotic-assisted laparoscopic prostatectomy (RALP) for localized prostate cancer between March 2003 and July 2012. 186 patients met criteria for MS as defined by the presence of obesity (BMI ≥ 30 kg/m²) in conjunction with ≥ 2 of the following: hypertension (HTN), dyslipidemia (D) and diabetes (DM). Additionally, reference cohorts of 184 obesity-alone and 663 non-obese men without HTN, D, or DM were identified for comparison. Clavien classification system and 22-point assessment of surgical complexity were utilized.

RESULTS: In comparison to the control group, patients with MS had larger prostates, higher pathologic Gleason score, higher tumor volume, increased surgical complexity, and lower baseline SHIM scores (table). There was no statistical difference observed between these groups with regard to biochemical control, continence, erectile function, margin status, or pathologic stage. Patients with obesity-alone, or obesity and solitary risk factors were not significantly different from MS cohorts in the studied variables. On multivariate analysis higher biopsy Gleason score (p<0.001) and positive margin status (p<0.001) were predictive of BCR for men without MS, while no significant predictors were identified in the MS group.

CONCLUSIONS: Patients with metabolic syndrome have similarly favorable biochemical outcomes, and surgical complications when compared to non-obese men without metabolic abnormalities undergoing RALP despite larger prostate glands, higher Gleason scores, tumor volumes, and worse baseline potency. Further study is warranted to investigate the potential hormonal basis and therapeutic targets in these observed differences.

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