

Testicular volume:



a predictor of maximum urinary flow rate in patients with lower urinary tract symptoms

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Introduction

- Among the various uroflowmetry parameters (maximum urinary flow rate (Qmax), voided volume (VV), and residual urine volume (RU)) for patients with lower urinary tract symptoms (LUTS), only maximum urinary flow rate (Qmax) is significantly related to the International Prostate Symptom Score (IPSS).
 Therefore, we think that maximum urinary flow rate (Qmax) is the very
- urinary flow rate (Qmax) is the very important uroflowmetry parameter and that it is important in clinical practice to find the factors affecting maximum urinary flow rate (Qmax). Thus, this study aimed to find **the factors that can predict maximum urinary flow rate (Qmax)** in patients with lower urinary tract symptoms (LUTS).

Results

- The mean maximum urinary flow rate (Qmax), voided volume (VV), and residual urine volume (RU) of 170 patients were 8.6mL/sec, 145.3mL, and 77.3mL, respectively.
- In correlation analysis, weight (r=0.095, p=0.219), serum testosterone (T) level (r=0.074, p=0.364), and serum prostate-specific antigen (PSA) level (r=-0.098, p=0.206) were **not** associated with maximum urinary flow rate (Qmax).
- However, **age** (r=-0.156, p=0.042), height (r=0.183, p=0.017), total prostate volume (TPV) (r=-0.176, p=0.022), total testicular volume **(TTV)** (r=0.315, p=0.000), **voided volume (VV)** (r=0.471, p=0.000), and residual urine volume (RU) (r=-0.203, p=0.008) were associated with maximum urinary flow rate (Qmax). Multivariate analysis using linear ulletregression model showed that total testicular volume (TTV) (β =0.268, p=0.001), voided volume (VV) (β=0.370, p=0.000), and **residual urine volume (RU)** (β =-0.193, p=0.009) independently predicted maximum urinary flow rate (Qmax).

Methods

- A total of **170 male patients** with lower urinary tract symptoms (LUTS) were enrolled.
- Uroflowmetry tests and transrectal ultrasonography (TRUS) were performed on all study subjects.
- Age, height, weight, serum prostatespecific antigen (PSA) level, and serum testosterone (T) level were measured.
- And the **testicular volume** was measured using orchidometry.
- To identify the independent predictive factors influencing maximum urinary flow rate (Qmax) in patients with lower urinary tract symptoms (LUTS), univariate and multivariate analyses were performed

Interpretation of Results

- Univariate and multivariate analyses using linear regression models showed that besides voided volume (VV) and residual urine volume (RU), total testicular volume (TTV) also predicts maximum urinary flow rate (Qmax) independently.
- That is, **the smaller the testicular volume** among patients with lower urinary tract symptoms (LUTS), **the lower the maximum urinary flow rate (Qmax)**.

using linear regression models.

Results

The mean age, height, weight, total prostate volume (TPV), serum prostate-specific antigen (PSA) level, total testicular volume (TTV), and serum testosterone (T) level of 170 patients were 69.3 years, 166.7cm, 67.4kg, 66.1mL, 4.47ng/mL, 32.2mL, and 387.4ng/dL, respectively.

Conclusions

Testicular volume may be a predictor of maximum urinary flow rate (Qmax) in patients with lower urinary tract symptoms (LUTS).