

LUNG FUNCTION: A PREDICTOR OF MAXIMUM URINARY FLOW RATE AFTER HOLMIUM LASER ENUCLEATION OF THE PROSTATE

Hypothesis / aims of study

To date, several large epidemiological studies indicated that lower urinary tract symptoms are associated with chronic obstructive pulmonary disease. This means that lung function is associated with lower urinary tract function. Thus, we investigated the relationships between uroflowmetry and pulmonary function test (PFT) findings on benign prostatic hyperplasia patients underwent holmium laser enucleation of the prostate (HoLEP). In addition, we investigated preoperative variables including PFT findings as potential predictors of maximum urinary flow rate (Qmax).

Study design, materials and methods

One hundred and eighty-eight (n = 188) consecutive patients that underwent HoLEP were enrolled. Before the HoLEP, the PFTs were performed. To identify the independent predictive factors influencing Qmax, univariate and multivariate analyses were performed using linear regression models.

Results

Mean age of all subjects was 70.5 years. Mean prostate specific antigen (PSA), total prostate volume (TPV), transitional zone volume (TZV) were 4.29 ng/mL, 63.6 mL, 34.7 mL, respectively. Mean forced vital capacity (FVC) and forced expiratory volume in 1 second (FEV1) were 3.56 L, 2.59 L, respectively. In the univariate analysis, age (r = -0.204, p = 0.005), height (r = 0.177, p = 0.016), prostate volume (TPV: r = -0.209, p = 0.004; TZV: r = -0.252, p = 0.001), and lung function (FVC: r = 0.224, p = 0.002; FEV1: r = 0.209, p = 0.004) were associated with preoperative Qmax. However, in the multivariate analysis, the significance disappeared. In the univariate analysis, age (r = -0.212, p = 0.005), preoperative Qmax (r = 0.299, p = 0.000), preoperative voided volume (r = 0.212, p = 0.005), and lung function (FVC: r = 0.255, p = 0.001; FEV1: r = 0.214, p = 0.004) were associated with postoperative Qmax. The multivariate analysis showed that lung function (FVC) was the independent predictive factor influencing Qmax after HoLEP.

Interpretation of results

The independent predictive factor influencing Qmax after HoLEP was lung function (FVC). This means that the higher a man's lung function (FVC), the higher his Qmax after HoLEP.

Concluding message

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Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** The Institutional Review Board of Gachon University Gil Medical center, Incheon, Republic of Korea **Helsinki:** Yes **Informed Consent:** Yes