

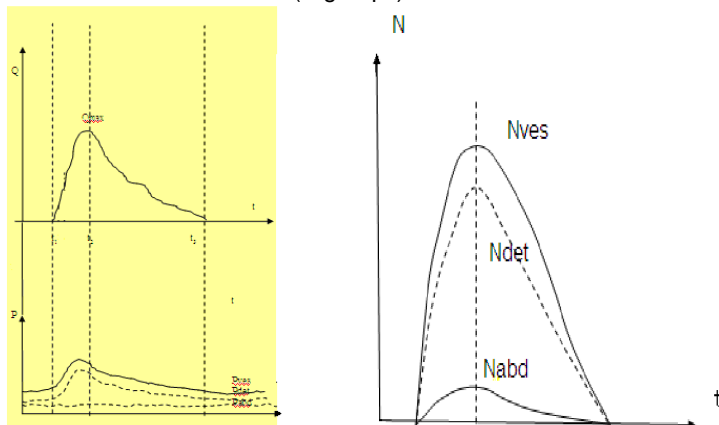
THE DISCOVERING THEORY OF POWERS OF VESICAL MICTURITION AND CLINICAL APPLICATION

Hypothesis / aims of study

The aim of this study was the discovering theory of powers of vesical micturition and clinical application, determining new concept, definition and parametric unit of the power of vesical micturition, the powers of vesical micturition $N = P \cdot Q$ ($N_{ves} = P_{ves} \cdot Q$, $N_{abd} = P_{abd} \cdot Q$, $N_{det} = P_{det} \cdot Q$). $N_{ves} = N_{det} + N_{abd}$.

Study design, materials and methods

Between November 2006 and November 2010, the use of urodynamic examination (pressure-flow) in study five groups men 305 cases were performed as vesical pressure (P_{ves}), abdomen pressure (P_{abd}), detrusor pressure (P_{det}), flow rate (Q), according the ICS guidelines. They were reprocessed as the powers of vesical micturition $N = P \cdot Q$ ($N_{ves} = P_{ves} \cdot Q$, $N_{abd} = P_{abd} \cdot Q$, $N_{det} = P_{det} \cdot Q$) by computer software. Normal men 46 patients (A groups): The powers of vesical micturition of the high resistance 46 cases (A1 groups) and the low resistance 46 cases (A2 groups), which in 46 cases (A1 groups), penis middle were banded it by the penis belt with 20mmHg pressure, in 46 cases (A2 groups), they were not it. 39 patients with BPH II^o: The powers of vesical micturition of preoperative TUR-P 39 cases (B1 groups) and postoperative TUR-P 39 cases (B2 groups); The powers of vesical micturition of the compensation for stage of bladder 50 (C groups); The powers of vesical micturition of the decompensation for stage of bladder 47 cases (D groups); The neurogenic bladder and many factors with vesical weak force 38 cases (E groups).



Results

Normal men 46 patients (A groups): The powers of vesical micturition of the high resistance 46 cases (A1 groups) were higher than the low resistance 46 cases (A2 groups). 39 patients with BPH II^o: The powers of vesical micturition of preoperative TUR-P 39 cases (B1 groups) were higher than postoperative TUR-P 39 cases (B2 groups). The powers of vesical micturition of the compensation for stage of bladder 50 cases were higher powers; The powers of vesical micturition of the decompensation for stage of bladder 47 cases, neurogenic bladder and many factors with vesical weak force 38 cases were lower powers, which abdomen pressure with power N_{abd} occupies more power N_{ves} of vesical pressure.

Table 1 the voiding powers of each groups compare

groups	cases	ages	N_{ves} (y)	N_{abd} (y)	N_{det} (y)
A groups -A1	46	36-50	912	204	708
A groups -A2	46	36-50	813	156	657
B groups -B1	39	61-76	1147	252	895
B groups -B2	39	61-76	1016	158	858
C groups	50	60-76	1557	217	1340
D groups	47	69-82	396	253	143
E groups	38	47-75	402	267	135

Interpretation of results

Normal low resistance or not BOO, the power of vesical micturition (N_{ves}) was distributable to N_{det} and N_{abd} . The high resistance or BOO, the power of vesical micturition ($N_{ves.p}$) was distributable to high $N_{det.p}$ and high $N_{abd.p}$, so that high $N_{ves.p}$.

$N_{ves.p} + N_{abd.p} = N_{ves.p} > N_{ves} = N_{det} + N_{abd}$.

The powers of vesical micturition of the compensation for stage of bladder ($N_{ves.c}$) were higher power than normal bladder for power of vesical micturition (N_{ves}). $N_{ves.c} > N_{ves}$.

The powers of vesical micturition of the decompensation for stage of bladder ($N_{ves.d}$) were lower power than normal bladder for power of vesical micturition (N_{ves}). $N_{ves.d} < N_{ves}$.

$y = \text{cmH}_2\text{O} \cdot \text{ml}/\text{sec}$, according to cmH_2O for meant concept is as g/cm^2 . The meaningful concept of ml/sec is as cm^3/sec . so that, $y = (\text{g}/\text{cm}^2) \cdot (\text{cm}^3/\text{sec})$, $y = \text{g} \cdot \text{cm} / \text{sec}$. This unit may express the power N as the force per unit of time pushes the fluid flow for distance, which conform to formula $N = f \cdot L / t$. $10000y = 1\text{watt}$.

Concluding message

The powers of vesical micturition make definite concept and definition and name. The voiding power means that urinary fluids are pushed by voiding pressure per second of time to flow volume, also called that urinary fluids are pushed by voiding pressure to make flow rate both multiplying to give the product of power N. The powers of vesical micturition: $N = P \cdot Q$ ($N_{ves} = P_{ves} \cdot Q$, $N_{abd} = P_{abd} \cdot Q$, $N_{det} = P_{det} \cdot Q$). $N_{ves} = N_{abd} + N_{det}$. The function of vesical micturition (the power) can express the physical parameters. The power of vesical micturition make definite parametric unit as y ($\text{g} \cdot \text{cm}/\text{s}$) or ($\text{cmH}_2\text{O} \cdot \text{ml}/\text{sec}$), $10000y = 1\text{watt}$. The normal adult men $N_{ves, Q_{max}} : 500 \sim 900y$; The compensation for stage of bladder is as $N_{ves, Q_{max}} : 1000 \sim 1600y$; The decompensation for stage of bladder (voiding of weak force) is as $N_{ves, Q_{max}} : 200 \sim 500y$. During micturition process, the powers of vesical micturition can realize the digital record of parametric curves, which reflects big or small function of vesical micturition. The power of vesical micturition has an important significance in clinical application of cases.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** It is an examination study **Helsinki:** Yes **Informed Consent:** Yes