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Urethral Resistance to Flow: the Urethral Resistance Relation

Abbreviated Report

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Key Words

Urethral resistance
Distensibility
Bladder Neck
Prostatic obstruction

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During micturition both the intrinsic bladder pressure and the flow rate vary continuously. If instantaneous values of one are plotted against the corresponding values of the other, a curve is traced out which may be interpreted as the urethral resistance relation, i.e. the relation between driving pressure and flow rate for the given urethra. In normal cases the relation has a characteristic shape due to the high distensibility of the urethra near the pelvic floor [1, 2]. This shape makes it difficult to define a simple 'urethral resistance' as for a rigid tube. In the following abnormal examples the relation has a shape characteristic of a relatively more rigid urethra: (a) male after urethroplasty involving the region near the external sphincter; (b) male obstructed at the bladder neck, and (c) male with prostatic obstruction. Thus in these cases the abnormal or obstructive segment is less distensible than in the normal. In case (b) there is evidence of a steady change in urethral properties during micturition, suggesting muscular action at the bladder neck.

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References

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