

Urinary Obstruction

Case Studies

The 57-year-old patient noted urinary hesitancy and a decrease in the force of his urinary stream for several months. Both had progressively become worse. His physical examination was essentially negative except for an enlarged prostate, which was bulky and soft.

Studies	Results
Routine laboratory studies	Within normal limits (WNL)
Intravenous pyelogram (IVP)	Mild indentation of the interior aspect of the bladder, indicating an enlarged prostate
Uroflowmetry with total voided flow of 225 mL	8 mL/sec (normal: >12 mL/sec)
Cystometry	Resting bladder pressure: 35 cm H ₂ O (normal: <40 cm H ₂ O)
	Peak bladder pressure: 50 cm H ₂ O (normal: 40-90 cm H ₂ O)
Electromyography of the pelvic sphincter muscle	Normal resting bladder with a positive tonus limb
Cystoscopy	Benign prostatic hypertrophy (BPH)
Prostatic acid phosphatase (PAP)	0.5 units/L (normal: 0.11-0.60 units/L)
Prostate specific antigen (PSA)	1.0 ng/mL (normal: <4 ng/mL)
Prostate ultrasound	Diffusely enlarged prostate; no localized tumor

Diagnostic Analysis

Because of the patient's symptoms, bladder outlet obstruction was highly suspected. Physical examination indicated an enlarged prostate. IVP studies corroborated that finding. The reduced urine flow rate indicated an obstruction distal to the urinary bladder. Because the patient was found to have a normal total voided volume, one could not say that the reduced flow rate was the result of an inadequately distended bladder. Rather, the bladder was appropriately distended, yet the flow rate was decreased. This indicated outlet obstruction. The cystogram indicated that the bladder was capable of mounting an effective pressure and was not an atonic bladder compatible with neurologic disease. The tonus limb again indicated the bladder was able to contract. The peak bladder pressure of 50 cm H₂O was normal, again indicating appropriate muscular function of the bladder. Based on these studies, the patient was diagnosed with a urinary outlet obstruction. The PAP and PSA indicated benign prostatic hypertrophy (BPH). The ultrasound supported that diagnosis. Cystoscopy documented that finding, and the patient was appropriately treated by transurethral resection of the prostate (TURP). This patient did well postoperatively and had no major problems.

Critical Thinking Questions

1. Does BPH predispose this patient to cancer?
2. Why are patients with BPH at increased risk for urinary tract infections?
3. What would you expect the patient's PSA level to be after surgery?
4. What are the recommended screening guidelines and treatment for BPH?
5. What are some alternative treatments / natural homeopathic options for treatment?