

Voiding Dysfunction: Review Questions

Julio G. Davalos, MD

Stanley Zaslau, MD

QUESTIONS

Choose the single best answer for each question.

- Which of the following is the normal female voiding pressure?**
 - Between 50 and 100 cm H₂O
 - Less than 40 cm H₂O
 - More than 70 cm H₂O
 - Unable to be determined
- A 45-year-old woman with non-insulin-dependent diabetes mellitus has urinary frequency, urgency, and occasional urge incontinence. She undergoes multichannel urodynamic evaluation. Which of the following is the LEAST likely explanation for her symptoms?**
 - Detrusor areflexia
 - Detrusor hyperreflexia with impaired contractility
 - Detrusor hyperreflexia with normal detrusor contractility
 - Impaired detrusor contractility with ability to void
- A 38-year-old woman has a persistent watery vaginal discharge accompanied by normal voiding after laparoscopic-assisted vaginal hysterectomy. Physical examination reveals perineal dermatitis. Which of the following is the most likely diagnosis for this patient?**
 - Detrusor hyperreflexia
 - Detrusor hyperreflexia with impaired contractility
 - Ureteral necrosis
 - Urethrocutaneous fistula
 - Vesicovaginal fistula
- During urodynamic evaluation, a 42-year-old woman, who had her first sensation of bladder filling at 135 mL, feels that she can no longer delay voiding at a bladder volume of 435 mL. Which of the following conclusions is most accurate?**
 - Her abdominal pressure is negligible
 - Her bladder compliance is poor
 - Her detrusor pressure is likely 10 cm H₂O
 - She has reached her functional bladder capacity
 - She has reached her maximum cystometric capacity
- Which of the following is the most common post-operative complication to occur immediately after placement of tension-free vaginal tape for stress urinary incontinence?**
 - Bladder perforation
 - Hemorrhage
 - Urethral erosion
 - Urinary retention
 - Wound infection
- Which of the following is the organizational center for the micturition reflex?**
 - Brain stem
 - Cerebral cortex
 - Pelvic nerve
 - Pudendal nerve
 - Sacral spinal cord

(turn page for answers)

Dr. Davalos is a Resident and Dr. Zaslau is an Assistant Professor, Department of Urology, West Virginia University School of Medicine, Morgantown, WV.

For copies of the Hospital Physician Urology Board Review Manual sponsored by Bayer Corporation, contact your Bayer sales representative or visit us on the Web at www.turner-white.com.

EXPLANATIONS

1. **(B) Less than 40 cm H₂O.** The normal adult female voids with a pressure typically between 20 and 30 cm H₂O. Many women void with almost no detectable increases in detrusor pressure. The normal adult male voids with a much higher pressure of approximately 40 to 60 cm H₂O. However, some males void at lower pressures with higher flow rates.
2. **(D) Impaired detrusor contractility with ability to void.** The diagnosis of diabetic neurogenic bladder is best made with urodynamic testing. The most common finding is detrusor hyperreflexia with normal bladder contractility in approximately 33% of patients. Approximately 25% of patients have detrusor areflexia or detrusor hyperreflexia with impaired detrusor contractility. Impaired detrusor contractility occurs in approximately 9% of patients. This pattern is the least common urodynamic explanation of diabetic neurogenic bladder.
3. **(E) Vesicovaginal fistula.** The classic presentation of a vesicovaginal fistula is continuous (day and night) incontinence following a recent pelvic operation such as a vaginal hysterectomy. However, a watery vaginal discharge accompanied by normal voiding may be the only symptom. Perineal dermatitis may result from long-term exposure to urine. Typically, vesicovaginal fistulas are clinically evident within 10 days of the injury. Cystoscopy and upper urinary tract evaluation should be completed in every patient with a urinary fistula.
4. **(E) She has reached her maximum cystometric capacity.** Maximum cystometric capacity, in patients with normal sensation, is the volume at which the patient feels that he/she can no longer delay micturition. Functional bladder capacity is assessed from a frequency/volume chart (voiding diary) and is a measurement of the largest volume that the patient voids during a single micturition.
5. **(D) Urinary retention.** Urinary retention is the most common complication to occur in the immediate postoperative period after tension-free vaginal tape (TVT) placement. This complication can easily be corrected by inserting a Hegar dilator or cystoscope into the urethra with downward traction. Bladder perforation occurs in fewer than 5% of patients undergoing placement of TVT. Urethral erosion (protrusion) of the tape is another rare complication of this procedure.
6. **(A) Brain stem.** Increased intravesical pressure is the stimulus responsible for initiating a bladder contraction. This stimulus is sensed by the cerebral cortex, and the center of the micturition reflex is in the brain stem. Bladder contraction is a coordinated neuromuscular action characterized by the following events: relaxation of the external (striated) sphincter, decrease in urethral pressure, increase in detrusor pressure, opening of the bladder neck, and voiding.

Copyright 2002 by Turner White Communications Inc., Wayne, PA. All rights reserved.

SELF-ASSESSMENT QUESTIONS ON THE WEB

Now you can access the entire Self-Assessment Series on the Web. Go to www.turner-white.com, and click on the "Self-Assessment Questions" link.