A 68 year-old man has symptoms of benign prostatic hypertrophy and is to undergo transurethral resection of the prostate (TURP). He has hypertension and hyperlipidemia and takes an ACE inhibitor and atorvastatin (Lipitor). He is physically active and has no symptoms of angina or heart failure.

What else will you investigate in the preoperative assessment?
In addition to the usual systems review for any anesthesiology preoperative assessment, you should make certain there are no contraindications to regional anesthesia (anticoagulation, spine abnormalities) and whether there are signs of renal dysfunction. The former may influence the choice of anesthetic technique, and the latter may influence the choice of drugs employed.

Will you recommend regional or general anesthesia? What are the relative merits of each?
Both anesthetics are commonly used and patient preference should be at least one important factor. Spinal anesthesia allows CNS monitoring for signs of the TURP syndrome, may relax the bladder efficiently, and may be associated with less blood loss. Conversely, general anesthesia with positive pressure ventilation increases venous pressure and reduces absorption of irrigation fluid, potentially decreasing the risk of TURP syndrome. In practice, no important differences in outcomes have been demonstrated between the two techniques.

After discussion with the patient, you decide on general anesthesia. How will you induce and maintain anesthesia?
Any reasonable combination of drugs is reasonable for general anesthesia. Most patients stay overnight and thus rapid emergence as required for outpatient surgery is not required. However, shorter acting drugs may allow for easier monitoring in the PACU for signs of fluid absorption and TURP syndrome. Therefore, induction with either thiopental or propofol is reasonable. Maintenance could be with a volatile anesthetic, with or without nitrous oxide, and a modest dose of a short-acting opioid such as fentanyl. Muscle relaxation often used to prevent movement when the resectoscope is in place.

The procedure takes longer than expected due to a very large amount of prostatic tissue requiring resection. At the end of the operation, you extubate the patient and take him to the PACU. He is hypertensive, confused and agitated. How will you assess him?
Although much attention is paid to it, don’t assume it’s TURP syndrome! First, check for the common causes of agitation in the PACU, including hypoxia, hypercapnia, pain, and emergence delirium. If you have excluded these causes, you can obtain laboratory studies to help you make the diagnosis. In particular, you can check a serum sodium and possibly an ammonia level (because glycine in the irrigating fluid is metabolized to ammonia).

If you believe he has TURP syndrome, how will you treat him?
The treatment of the syndrome is largely supportive. Begin, as always, with the ABC’s: administer supplemental oxygen, ensure a patent airway and adequate ventilation, examine the patient for signs of volume overload and treat hemodynamic derangements with appropriate drugs to lower blood pressure. You will monitor the electrocardiogram for dysrhythmias, and treat them with appropriate drugs if they occur. When you have confirmation that there is hyponatremia, you will then fluid restrict the patient and consider diuresis with a loop diuretic such as furosemide. Rarely your will need to use hypertonic saline to raise the sodium level (generally if severely low, < 120, or in the presence of CNS or cardiovascular symptoms). This is done slowly, to avoid myelinolysis. You will also check for the presence of dilutional coagulopathy or anemia and treat if present with factor replacement (fresh frozen plasma) and blood components as needed.