

toma. Other vascular complications include retroperitoneal bleeding, false aneurysms, arterial occlusion, arterial dissection, arterial laceration, arteriovenous fistula, infection, and cholesterol emboli.<sup>4-6</sup>

There are several risk factors for the development of a postcatheterization hematoma. These include advanced patient age (greater than 60), female sex, hypertension, low platelet count, large-bore catheters, operator inexperience, poor groin compression after catheter removal, high puncture site, abnormal vessel or graft, clinical evidence of peripheral vascular disease, and anticoagulant-thrombolytic therapy.<sup>2,4,7</sup> The likelihood of a vascular injury is higher after coronary angioplasty or stent placement than after angiography alone.<sup>2,5</sup>

The diagnosis is elusive and could mimic other diseases. Spontaneous RPHs usually do not present with a Cullen's sign or Grey-Turner's sign. Retroperitoneal blood could also dissect into the perineum or groin and cause scrotal hematomas, inguinal masses, or scrotal/inguinal pain, as observed in this case.<sup>1</sup> It has also been reported that retroperitoneal blood could irritate the psoas muscle and produce an iliopsoas sign such as is occasionally seen in appendicitis. Neurologic signs could be present as a result of compression of the femoral, obturator, and lateral femoral cutaneous nerves.<sup>3</sup> Nonspecific symptoms could be the only clue to intraabdominal pathology and recently performed procedures must be considered.

In cases in which the diagnosis of RPH is suspected, the definitive diagnosis can be made by CT scan. Ultrasound is a useful adjunct because it could demonstrate free fluid in the peritoneal cavity and provide a clue to the diagnosis.

BORIS V. LUBAVIN, MD  
University of California, Irvine  
Department of Emergency Medicine  
Orange, CA

## References

1. Johnson GA: Aortic dissection and aneurysms, in Tintinalli JE, Kelen GD, Stapczynski JS (eds): *Emergency Medicine. A Comprehensive Study Guide* Dallas, American College of Emergency Physicians, 2000, pp 412-414
2. Ricci MA, Trevisani GT, Pilcher DB: Vascular complications of cardiac catheterization. *Am J Surg* 1994;167:375-378
3. Sreeram S, Lumsden AB, Miller JS, et al: Retroperitoneal hematoma following femoral arterial catheterization: a serious and often fatal complication. *Am Surg* 1993;59:94-98
4. Johnson LW, Esente P, Giambartolomei A, et al: Peripheral vascular complications of coronary angioplasty by the femoral and brachial techniques. *Catheter Cardiovasc Diagn* 1994;31:165-172
5. Kent KC, Moscucci M, Mansour KA, et al: Retroperitoneal hematoma after cardiac catheterization: prevalence, risk factors, and optimal management. *J Vasc Surg* 1994;20:905-910
6. Franco CD, Goldsmith J, Veith FJ, et al: Management of arterial injuries produced by percutaneous femoral procedures. *Surgery* 1993;113:419-425
7. Trerotola SO, Kuhlman JE, Fishman EK: Bleeding complications of femoral catheterization: CT evaluation. *Radiology* 1990;174:37-40

## ZIPRASIDONE FOR SEDATION OF THE AGITATED ED PATIENT

*To the Editor:*—Recently, the Food and Drug Administration added a black box warning restricting the use of droperidol (Inapsine, Akorn Pharmaceuticals, Buffalo Grove, IL) citing “reports of deaths associated with QT prolongation and torsade de pointes

in patients treated with doses of Inapsine above, within, and even below the approved range.” This warning has resulted in significant changes for EPs in treating several common conditions encountered in ED practice. Of primary concern is the management of the acutely agitated patient.

Current recommendations from Akorn Pharmaceuticals reserve droperidol “for use in the treatment of patients who fail to show an acceptable response to other adequate treatments, . . . [and] all patients should undergo a 12-lead ECG prior to the administration of Inapsine to determine if a prolonged QT interval . . . is present.” Further recommendations include “ECG monitoring should be performed prior to treatment and continued for 2-3 hours after completing treatment to monitor for arrhythmias.”

Many EPs have had droperidol removed from their hospital's formulary; or, in cases in which agitation precludes the determination of the QT interval, EPs are forced to use alternative, less desirable treatments. These could include longer-acting antipsychotics, prolonging ED stays, or medications such as benzodiazepines, which carry a higher risk of respiratory depression.

A new class of antipsychotic has recently been approved for use in the acutely agitated, psychotic patient. Ziprasidone (Geodon; Pfizer Inc., New York, NY) has been shown effective in the management of acute psychotic agitation.<sup>1-3</sup> We have successfully used ziprasidone in the ED for the management of agitation in approximately 10 cases. Control of agitation is generally within 15 minutes of a single 20-mg intramuscular dose. This could be repeated for a total of 40 mg (total recommended daily dose) if indicated. Sedation is generally less prominent than with other antipsychotics, but treatment was effective in controlling agitation.

The primary limitation we have seen with the use of ziprasidone in the ED has been preparation for injection. Ziprasidone for injection is in the lyophilized form and must be reconstituted with sterile water. In practice, this takes approximately 3 minutes, and without preservative or bacteriostatic additives, must be prepared before each use or refrigerated for less than 1 week.

Our limited experience suggests that ziprasidone could be useful in the management of the acutely agitated ED patient. Future research could substantiate these findings and provide a new method for EPs to manage the acutely agitated ED patient.

MARC L. MARTEL, MD  
Hennepin County Medical Center  
Department of Emergency Medicine  
Minneapolis, MN

## References

1. Keck PE, Reeves KR, Harrigan EP: Ziprasidone in the short-term treatment of patients with schizoaffective disorder: results from two double-blinded, placebo-controlled, multicenter studies. *J Clin Psychopharmacol* 2001;21:27-35
2. Brook S, Lucey JV, Gunn KP: Intramuscular ziprasidone compared with intramuscular haloperidol in the treatment of acute psychosis. *J Clin Psychiatry* 2000;61:933-941
3. Daniel DG, Potkin SG, Reeves KR, Swift RH, Harrigan EP: Intramuscular ziprasidone 20 mg is effective in reducing acute agitation associated with psychosis: a double-blinded, randomized trial. *Psychopharmacology* 2001;155:128-134

## CAN SEVERE ACUTE PAIN ESCAPE VISUAL ANALOG SCALE SCREENING IN THE ED?

*To the Editor:*—Pain relief is certainly one of the most important components of medical care for all patients of all times