The Unsaid Dangers of NSAIDs

Ellen Apple, MSN, APRN, FNP-C

Ellen Apple practices at the Dickson Schools Family Clinic in Tennessee.

Q Many total joint replacements and other orthopedic procedures are performed at the surgical center where I work. To decrease the use of narcotics, the anesthesiology department often uses IV push ketorolac postop. Our nephrology colleagues in the community are unhappy about this—but we think they're overreacting, since these patients are often generally healthy. Is there any data on the use of ketorolac and orthopedic surgery?

All medications have associated risks. For example, while therapeutic dosages for a limited time are considered safe and effective, prolonged use of any NSAID can increase the risk for acute kidney injury (AKI) or chronic kidney disease (CKD) progression. We tend to associate these issues only with patients who are at higher risk for CKD: those who are older or who have diabetes or hypertension.

Thus, it was shocking to read a clinical report on four previously healthy young adults who were admitted for AKI three to four days after postoperative administration of ketorolac. None of these patients had risk factors that would predispose them to kidney disease. All had complained of gastrointestinal symptoms along with mild dehydration and flank pain; one young man even required a kidney biopsy and dialysis. All four did eventually recover kidney function.[1]

Ketorolac—like most NSAIDs—can affect kidney function, decreasing renal plasma flow and causing a dysfunction in salt and water balance. Postoperative patients may have activity limitations (eg, the young healthy patient on crutches). Factor in kidney damage from presurgical/outpatient NSAID use (which is usually reversible) and dehydration due to decreased fluid intake and nausea, and AKI is a real danger.

With the opioid crisis at the forefront of national health news, nonnarcotic alternatives for pain control are much in demand. This puts a whole new population at risk for AKI. Educate patients and their families about preventive measures, such as controlling nausea, maintaining hydration, and monitoring urine output. Fever, flank pain, or any untoward symptoms should be reported. Remember, AKI may be more common in the older patient with diabetes—but it can occur in anyone. **—EA** CR

REFERENCE

1. Mariano F, Cogno C, Giaretta F, et al. Urinary protein profiles in ketorolac-associated acute kidney injury in patients undergoing orthopedic day surgery. *Int J Nephrol Renovasc Dis.* 2017;10:269-274.

National Kidney Foundation™

The National Kidney Foundation Council of Advanced Practitioners' (NKF-CAP) mission is to serve as an advisory resource for the NKF, nurse practitioners, physician assistants, clinical nurse specialists, and the community in advancing the care, treatment, and education of patients with kidney disease and their families. CAP is an advocate for professional development, research, and health policies that impact the delivery of patient care and professional practice. For more information on NKF-CAP, visit **www.kidney.org/CAP.**

Renal Consult is edited by **Jane S. Davis, CRNP, DNP,** a member of the *Clinician Reviews* editorial board, who is a nurse practitioner in the Division of Nephrology at the University of Alabama at Birmingham and is the communications chairperson for the National Kidney Foundation's Council of Advanced Practitioners (NKF-CAP); and **Kim Zuber, PA-C, MSPS, DFAAPA,** a semi-retired PA who works with the American Academy of Nephrology PAs and is a past chair of the NKF-CAP. *Clinician Reviews* is the proud recipient of NKF-CAP's Nostradamus Award, recognizing the journal's forethought and vision in supporting the contributions of Advanced Practitioners in nephrology.