REVISTA MEXICANA DE CIRUGÍA DEL APARATO DIGESTIVO

Emergency abdominal surgery in patients with chronic kidney disease

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Cirugía abdominal de emergencia en pacientes con enfermedad renal crónica

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Emergency abdominal surgery in patients with chronic kidney disease (CKD) represents a challenge for the surgical team due to the pathophysiological alterations associated with renal failure. These patients have a higher risk of perioperative complications and a lower physiological reserve to tolerate surgical trauma and anesthesia.[1] The degree of renal failure and the use of dialysis also affects the outcome and subsequent morbidity.[2]

Before surgery, it is essential to perform a comprehensive evaluation of the patient with CKD.[3] Key aspects to consider include determining the glomerular filtration rate (GFR) and serum creatinine and urea levels; identifying imbalances such as hyperkalemia, hyponatremia, or metabolic acidosis; evaluating blood volume and blood pressure to prevent episodes of intraoperative hypotension; reviewing the presence of anemia, coagulation disorders, and platelet dysfunction, which are common in CKD; and adjusting or discontinuing drugs that may impair renal function. In patients with advanced stages, assessing the need for a preoperative dialysis session to optimize metabolic balance is crucial.

Patients with CKD may require emergency abdominal surgery for various diseases, such as: acute appendicitis, which may present an atypical course with late diagnosis and an increased risk of perforation; peritoneal dialysis patients may develop secondary peritonitis, and surgical management may be necessary in the presence of refractory infections; and mesenteric ischemia, common in patients with advanced atherosclerotic disease. Likewise, in patients with CKD, obstructive acute abdomen associated with adhesions, tumors, or complicated diverticular disease may occur.

Throughout surgery, strict monitoring of renal function should be carried out with the use of a urinary catheter and control of diuresis, additionally, hemodynamic management should be based on the prudent use of fluids to avoid overload and maintain adequate blood pressure. During the anesthetic procedure, nephrotoxic agents and drugs that can induce severe hypotension should be avoided. Renal protection strategies should also be implemented at all times through the use of osmotic diuretics, if indicated, and hyperkalemia control.

In addition, postoperative handling is key to ensure patient recovery and the prevention of complications.[4] Therefore, electrolyte and acid-base balance control must be strict; dialysis therapy adjustment is required for dependent patients; infections should be prevented through the rational use of antibiotics and monitoring for sepsis; and protein intake should be managed appropriately to prevent the progression of renal damage. Regarding pain control, the use of NSAIDs should be avoided, and opioids should be used in adjusted doses.

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Emergency abdominal surgery in patients with CKD requires a multidisciplinary approach to minimize risks and improve clinical outcomes; preoperative optimization, careful intraoperative management, and adequate postoperative care are essential for patient safety and recovery.

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