

PD-18. PREEMPTIVE MULTIMODAL ANALGESIA FOR ACL SURGERYReuben, S.S.¹; Gutta, S.B.¹; Tarasenko, V.¹; Steinberg, R.B.¹; Sklar, J.²

1. Anesthesiology, Baystate Medical Center, Springfield, Massachusetts; 2. Orthopedics, Baystate Medical Center, Springfield, Massachusetts

Introduction: Anterior cruciate ligament (ACL) surgery may result in a considerable degree of postoperative pain (1). The intensity of acute postoperative pain has been associated with higher incidence of chronic pain (2). Preemptive multimodal analgesics have been recommended in the management of pain following ACL surgery (1,3). These analgesic techniques reduce acute pain and allow patients to participate in a rehabilitation program. Patients unable to complete a rehabilitation program following arthroscopic knee surgery may be at increased risk for developing postoperative knee complications such as delay in strength recovery, prolonged stiffness, and anterior knee pain (4,5,6). Therefore, aggressive pain management in the early postoperative period is essential and can enhance post-arthroscopic convalescence (7). The goal of this study was to assess postoperative complications following ACL surgery utilizing a preemptive multimodal analgesic protocol versus a standard postoperative pain protocol.

Methods: We retrospectively analyzed the data on 1200 patients receiving either multimodal preemptive analgesic protocol (n=500) or a standard postoperative pain protocol (n=700) between the years 1995 to 2001. Patients in the preemptive multimodal group received acetaminophen 1000 mg every 6h and rofecoxib 50mg daily starting 48h prior to surgery. In addition 30 min prior to surgery, a femoral nerve block and an intraarticular injection of bupivacaine/clonidine/morphine were performed. Postoperative analgesia included acetaminophen, rofecoxib, controlled-release oxycodone, and cryotherapy. In contrast, patients in the standard postoperative analgesic group received no analgesics prior to surgery and were administered ibuprofen and acetaminophen with oxycodone on as needed basis postoperatively. All patients were enrolled in an accelerated rehabilitation protocol (8). Medical charts were reviewed after one year to determine the incidence of complications following surgery.

Results: Verbal analog pain scores in the PACU were lower in the preemptive multimodal group (1.1 ± 0.4) compared to the standard treatment group (5.4 ± 1.6). Significantly more ($P < 0.0001$) patients were discharged on the same day of surgery (n=480;96%) in the preemptive multimodal group compared to the standard group (n=406;58%). Significantly more ($P < 0.0001$) patients in the preemptive multimodal group (n=455;91%) were able to complete the accelerated rehabilitation in 6 months compared to the standard group (n=476;68%). A significantly higher incidence of complications was observed at 1-year follow up in the standard treatment group compared to the preemptive multimodal group. The incidence of anterior knee pain was significantly higher ($P < 0.0001$) in the standard treatment group (n=98;14%) compared to the preemptive multimodal group (20;4%). The incidence of complex regional pain syndrome was significantly higher ($P = 0.008$) in the standard treatment group (n=28;4%) compared to the preemptive multimodal group (5;1%). In addition, significantly more ($P < 0.0001$) patients required repeat arthroscopy for lysis of scar tissue in the standard group (n=56;8%) compared to the preemptive multimodal group (n=10;2%).

Conclusion: The utilization of preemptive multimodal analgesia reduced the incidence of acute pain in the PACU. In addition, this technique allowed for a greater number of patients to complete an accelerated rehabilitation program and reduced the incidence of complications following ACL surgery.

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