Ankle Block versus Popliteal Fossa Block as Primary Anesthesia for Forefoot Surgical Procedures: A Prospective, Randomized Comparison

Presenting Author:
Joshua Hunter, MD

Additional Authors:
Robert B. Anderson, MD, Carroll P. Jones, MD, Bruce Cohen, MD

Category: Midfoot/Forefoot

Keywords: ankle block popliteal block forefoot pain control

Introduction/Purpose: Postoperative pain is often difficult to control with oral medications, often times requiring large doses of opioid analgesia. The purpose of this study is to compare the analgesic effects of an ankle block (AB) to a single shot popliteal fossa block (PFB) for patients undergoing orthopaedic forefoot procedures. Our hypothesis is that a PFB would have fewer conversions to general anesthesia, less pain medication requirements and better pain control in the immediate postoperative period.

Methods: Patients having elective outpatient orthopaedic foot and ankle procedures were invited to participate. Patients with Diabetes, peripheral neuropathy, bilateral procedures, allergy to local anesthetics and procedures proximal to chopart’s joint were excluded. Patients were randomized to either an ultrasound guided AB or PFB by an anesthesiologist pre-operatively. Intraoperative conversion to general anesthesia and PACU opioid requirements were converted to mg of Morphine and then recorded. Postoperative pain was assessed using the visual analog scale (VAS) at regular time intervals until postoperative day (POD) 2. Patients rated their block experience on a 1-5 scale, with 5 being very effective.

Results: A total of 167 patients participated in the study with 88 patients (53%) receiving an AB and 79 (47%) receiving a single shot PFB. No difference in the conversion to general anesthesia was seen between the two groups (12 patients in AB v. 10 in PFB, p>0.05), with the most common reason being movement without pain in both groups. PACU morphine requirements were significantly reduced in the PFB group (p=0.004). The VAS was significantly lower for the PFB patients for all time points 24hrs after surgery (p < 0.01). Individual and combined complication rates were similar between both groups (AB 11.4% v PFB 10.1%, p>0.05). The PFB lasted longer (14.5hrs v 20.9hrs, p < 0.001). Both groups felt their block was effective (AB 4.79/5 v PFB 4.82/5, p=0.68)
**Conclusion:** Regional anesthesia can be a safe and reliable adjunct to perioperative pain management with high patient satisfaction in patients undergoing elective forefoot procedures. However, better pain management and decreased opioid requirements in the immediate perioperative period was seen in patients having a popliteal fossa block when compared to an ankle block.