

통증 및 근골격재활

발표일시 및 장소 : 10 월 18 일(금) 15:15-15:25 Room A(5F)

## OP1-2-7

### **Popliteal Sciatic Nerve Block as an Alternative Anesthesia in Surgically Treated Ingrown Toenail**

Beom Suk Kim, M.D.<sup>1\*</sup>, Jaeyoung Kim, M.D.<sup>2</sup>, Kyoung Bo Shim, M.D.<sup>3</sup>, Young Ha Jeong<sup>1</sup>, Joon Shik Yoon, M.D., Ph.D.<sup>1†</sup>

Korea University Guro Hospital, Department of Rehabilitation Medicine<sup>1</sup>, Korea University Guro Hospital, Department of Orthopedic Surgery<sup>2</sup>, Kyunghee Geriatric Hospital, Department of Rehabilitation Medicine<sup>3</sup>

#### **Background and Aims**

Ingrown toenail is one of the most common painful nail conditions. Although most cases are treated conservatively, surgical treatments are required in some cases. To date, digital nerve block (DB) has been most commonly used anesthetic procedure as its ease of performance. However, as multiple injections are required and the local anesthetic agents are not well infiltrated in severe cases, a need for alternative anesthetic procedure has been raised. Our aim of this study was to investigate the safety and effectiveness of popliteal sciatic nerve block (PB) as an alternative anesthetic modality in surgically treated ingrown toenail patients.

#### **Methods**

110 surgically treated ingrown toenail patients (stage 2 and 3 according to Heifetz classification) were enrolled. All patients were male with a mean age  $\pm$  SD of  $20.7 \pm 2.1$  years. 66 patients underwent DB and 44 received popliteal PB as anesthetic procedures. DB was performed via 25-gauge needle with administering 3 mL of 2% lidocaine in each side of the web space just distal to the metatarsophalangeal joint. PB was performed via 22-gauge needle with administering 15 mL of 2% lidocaine in sciatic nerve at the popliteal region. The PB was performed under real-time ultrasound guidance. For evaluating procedure-related pain, visual analogue scale (VAS) score during skin penetration (SP) and injecting the solutions (IS) were separately recorded. Time to induction, duration of anesthesia, and a need for additional injection were checked for evaluating the effectiveness. For evaluating the safety, adverse events related to anesthesia (e.g. palpitation, nausea, vomiting, dizziness et al.) were recorded.

#### **Results**

PB group showed significantly lower procedure-related pain than DB group ( $p < 0.001$ ). VAS scores during skin penetration were mean  $\pm$  SD of  $43.5 \pm 11.0$  mm (PB) and  $58.3 \pm 23.6$  mm (DB). VAS scores during injecting the solutions were  $23.6 \pm 10.6$  mm (PB) and  $58.3 \pm 13.8$  mm (DB). Time to induction showed significant difference between the two groups ( $p$

< 0.001):  $20.8 \pm 4.6$  minutes (PB) versus  $6.5 \pm 1.6$  minutes (DB). Duration of anesthesia also differed between the two groups ( $p < 0.001$ ):  $187.9 \pm 22.0$  minutes (PB) versus  $106.5 \pm 19.1$  minutes (DB). Additional anesthetic injections were needed in 16 cases (24.2%) of DB group due to poor anesthesia, while none of PB group required extra-shot. A total of 4 cases (2 dizziness and 2 syncope) were reported as adverse events related to anesthesia in DB group, while 2 cases (1 palpitation and 1 dizziness) occurred in PB group.

### **Conclusions**

PB can be considered as a safe and effective anesthetic method for surgical treatments in ingrown toenail patients. As PB seems to be less painful, safer, and more effective method than conventional DB, physicians could regard the procedure as an alternative anesthetic modality.