

Ultrasound Guided Popliteal Nerve Block for Operative Ankle Instability Procedures

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Introduction

At our institution, OrthoIndy Hospital, prior to regional anesthesia, patients undergoing operative ankle instability procedures required overnight admissions to the hospital for pain control. Techniques of regional anesthesia have been described throughout the literature^[1]. After instituting regional anesthesia under ultrasound for operative ankle instability procedures, patients have been able to be discharged home on the same day. Complications have been reported of up to 10 percent throughout the literature^[2]. This is a retrospective review of the author's operative cases utilizing regional anesthesia for ankle instability procedures.

Materials and Methods

One hundred sixteen cases were reviewed through August 2014 of operative ankle instability. EQ5D data were collected. The conceptual basis of the EQ-5D is the holistic view of health, which includes the medical definition, as well as the fundamental importance of independent physical, emotional and social functioning. The concept of health in EQ-5D also encompasses both positive aspects (well-being) and negative aspects (illness). The EQ-5D is short, easy to use and flexible. It has been used successfully in several different settings (scientific trials, health policies, pharmacoeconomics, clinics, etc.). It consists of a questionnaire and a visual analogue scale (EQ-VAS). The EQ-VAS is a self-rated health status using a VAS. The EQ-VAS records the subject's perceptions of their own current overall health and can be used to monitor changes with time. The self-assessment questionnaire is self-reported description of the subject's current health in 5 dimensions i.e., mobility, self-care, usual activities, pain/discomfort and anxiety/depression. The subject is asked to grade their own current level of function in each dimension into one of three degrees of disability (severe, moderate or none). The combination of these with the conditions "death" and "unconscious" enables description of 245 different health states. Each health state can be ranked and transformed a single score called the utility. The utility score is an expression of the Quality Adjusted Life Years (QALY) and is commonly used to make evidence-based decisions in analyses of cost-effectiveness. Therefore, the EQ-5D can be used for health outcomes studies and economic analyses. Eight four females and thirty two males underwent the index procedure. Average age was 42 for female and 41 for male. Average body mass index was 29.84 for female and 30.7 for males. Body mass index is a measurement of body fat based on height and weight that applies to both men and women between the ages of 18 and 65 years. Ankle Study Index Scores were 0.72 for female and 0.78 for male. US Healthy Index Scores were 0.72 for females and 0.78 for males. EQ-VAS scores were 77.8 for females and 75.9 for males.

Technique

Patients present to the preoperative area at the hospital where preoperative nursing care begins. The anesthesiologist for regional blocks sees the patient and discusses the ultrasound guided procedure. Risks/benefits and complications are discussed with the patient of the regional anesthesia. The site is verified by the anesthesiologist and patient with a "Yes" written on the site. Following completion of preoperative workup, the patient is then transported to the regional anesthesia room for the procedure. A timeout is taken prior to verify the site. Ultrasound guidance is used for the single regional block.

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Results

Of the 116 cases, all patients (100%) were discharged from the hospital on the same day. Two of the 116 (1.7%) required a second block postoperatively when the patient complained of continued pain in the postoperative anesthesia recovery unit. Both were successfully discharged home following the second block. Zero of the 116 (0%) developed complex regional pain syndrome after the procedure. Zero of the 116 (0%) had a post regional hematoma. Zero of the 116 had a post regional infection. Zero of the 116 (0%) had a post procedure permanent nerve injury. Zero of the 116 (0%) had readmissions for intravenous pain control.



Discussion

Ultrasound guided popliteal nerve anesthesia is a safe, effective method at our institution for operative ankle instability. Our results are comparable to published results for both adults and adolescents^[3-5]. Patients are able to be discharged home with excellent pain control to help minimize IV pain medication. In the primary author's office, many patients anecdotally have stated that they would undergo the same anesthetic procedure in the future if needed. With the efficacy and safety profile of regional anesthesia, the primary author continues to offer the procedure to patients undergoing operative ankle instability.

Conclusion

Ultrasound guided regional anesthesia is a safe, effective procedure for those patients who need an ankle instability operation. The flexibility of going home and reduced opioid medications provide patients the ability to return to daily living activities at a sooner pace.

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