INTRODUCTION

In recent years, there has been a growing interest in the practice of regional anesthesia and, in particular, peripheral nerve blocks for surgical anesthesia and postoperative analgesia. Peripheral nerve blocks have been found to be superior to general anesthesia, as they provide effective analgesia with few side effects, and can hasten patient recovery**(*Choyce et al.*,2001)**.

The key requirement for successful regional anesthetic blocks is to ensure optimal distribution of local anesthetic around nerve structures. This goal is most effectively achieved under sonographic visualization **(*Marhofer et al.*,2005).**

Several studies in peripheral nerve blocks have found that puncture processing performed under ultrasound guidance is easier and more effective than that performed without such guidance, thus ultrasound imaging techniques are being developed for clinical practice. One of the major advantages of these techniques is that they provide the opportunity to show the patient the anatomical situation before the puncture using a near harmless and effective technique. A second advantage is that the puncture process and the application of medication can be demonstrated and clearly observed during the performance. If there is a problem with the spread or the application, the processing of the block can be immediately modified to improve the quality of the technique**(*Grau et al.*,2005).**

Ultrasonography has received increasing attention in regional anesthesia in recent years because it allows visualization of the nerves, the needle, and the surrounding structures and makes it possible to monitor distribution of the local anesthetic drug. Ultrasound technology is unfamiliar to most anesthesiologists, unless they work with transesophageal echocardiography. Ultrasound-guided regional anesthesia relies entirely on the expertise of the person performing the

technique and how that person interprets the images, though the latest portable ultrasound devices are ergonomically designed for fast, easy use, even by less experienced personnel. The high-frequency probes can identify the brachial plexus and produce excellent images of considerable educational value . Ultrasonography makes it possible to identify the brachial plexus, from the roots to the peripheral nerves of the arm**(*Romero et al.*,2008).**

The increasing use of ultrasound has allowed anesthesiologists to perform nerve blocks with a high success rate and without nerve stimulation or eliciting aparesthesia. High resolution ultrasound allows direct visualization of nerves and surrounding structures and can demonstrate spread of local anesthetic in the appropriate tissue planes***(Jeffrey et al.*,2008*).***