NEEDLE GUIDANCE IMPROVED THE VISUALIZATION OF THE NEEDLE IN REAL TIME ULTRASOUND GUIDED SPINAL ANESTHESIA

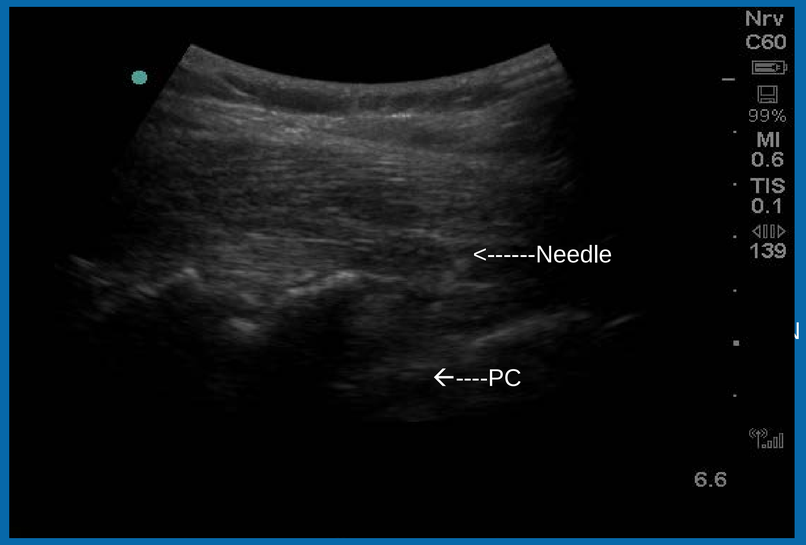
Hesham Elsharkawy MD,M.Sc ,Sree Kolli M.D., Hari Kalagara M.D.,Mounir L Soliman,MD.

Introduction:

Ultrasound guidance for regional anesthesia has gained popularity over the last few years. There is increasing interest in real time ultrasound guidance for neuraxial anesthesia, especially in patients with technically complex anatomy. Spinal anesthesia can be challenging in patients with difficult anatomy. Ultrasound guidance for pre procedural marking have been shown to have promising results. Spinal anesthesia performed with real time ultrasound guidance in difficult anatomy patients have shown varying results in the limited number of studies. The primary problem seems to be visualizing the needle at greater depths. Here we describe 2 cases where the CIVCO needle guide was used to improve the needle visualization.

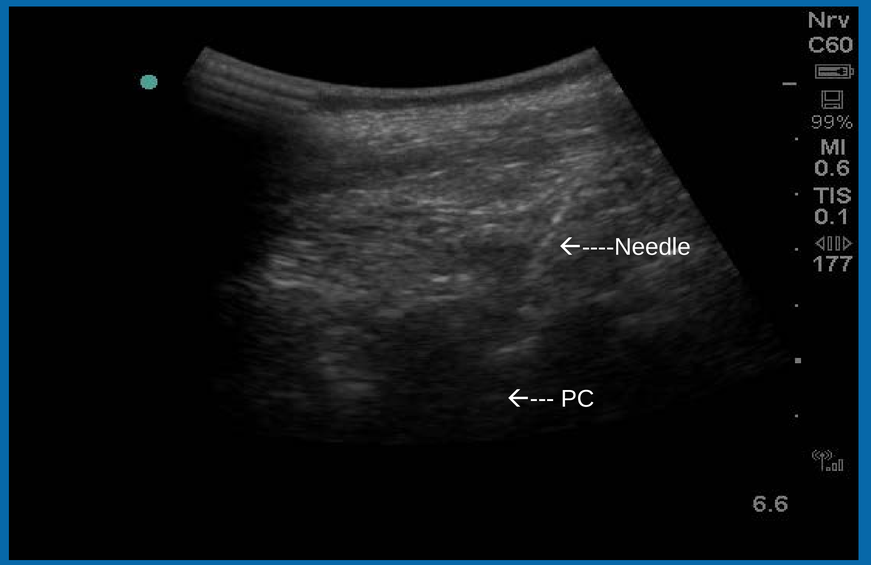
Methods:

We performed real time ultrasound guided spinals on two obese patients scheduled for elective total knee joint arthroplasty. We used a curved array 2–5 MHz transducer with CIVCO needle guide mounted. We used a paramedian longitudinal oblique approach angled toward the midline with needle insertion in plane. We used A 22 gauge echogenic spinal needle. The Number of needle reinsertions form the skin was two times in the second patient and none for the first patient. The anesthesiologist rated the difficulty of insertion as moderate and both patients reported a very good satisfaction score with no complications. We were able to visualize the needle all the way to the posterior complex.



Conclusion:

Real time ultrasound spinal anesthesia is a feasible technique even in the obese population when performed using the needle guidance. The needle guidance improved the visualization of the needle at depths greater than 4 centimeters.



REFERENCES

1. Sprung J., et al., *Predicting the difficult neuraxial block: a prospective study.* Anesth Analg, 1999. 89(2): P. 384-9
2. Chin, K.J., et al., *Ultrasound imaging facilitates spinal anesthesia in adults with difficult surface anatomic landmarks.* Anesthesiology 2011. 115(1): p. 94-101
3. Conroy P.H., et al., *Real-Time Ultrasound-Guided Spinal anesthesia.* Anesthesiology Research and Practice 2013.