

Ultrasound-guided neuraxial and paraspinal blocks

(講演は日本語でおこないます)

Hyungtae Kim (金 亨泰)

Senior Attending Staff

Department of Anesthesiology and Pain Medicine

Presbyterian Medical Center

Assistant Professor

Department of Anesthesiology and Pain Medicine

Seonam University College of Medicine

We are placed in a difficult situation when performed neuraxial blocks such as obesity, scoliosis, previous spine surgery etc. Ultrasound can assist a successful and safe neuraxial block for the following reasons:

- (1) Identification of the midline.
- (2) Identification of the correct interspinous and vertebral level.
- (3) Assistance of the angle of needle progression.
- (4) Prediction of the depth and trajectory for the needle.
- (5) Prediction of the depth to the epidural space.
- (6) Identification of abnormal anatomy.
- (7) Improvement of the success rate on the 1st attempt.
- (8) Reduction of needle attempts and redirections.
- (9) Reduction of the risk of traumatic procedure.
- (10) Improvement of the patient's satisfaction.

Ultrasound can be used by real time to guide the procedure (ultrasound-guided) and prescan before the procedure for the identification of anatomy and puncture site. Perlas et al reported that there is significant evidence supporting the role of neuraxial ultrasound in improving the precision and efficacy of neuraxial anesthetic techniques.¹⁾ Chin KJ et al reported that ultrasound can be useful in predicting the absence of technical difficulty in performing dural puncture and thus in selecting the optimal intervertebral for spinal anesthesia.²⁾ However, there are small numbers of studies to date.

So I want to talk about practical ultrasound-guided neuraxial blocks performed in our hospital. In addition, I also want to talk about several ultrasound-guided paraspinal blocks.

References

1. Perlas A, Chaparro LE, Chin KJ. Lumbar Neuraxial Ultrasound for Spinal and Epidural Anesthesia: A Systematic Review and Meta-Analysis. *Reg Anesth Pain Med.* 2016; 41: 251-60.
2. Chin KJ, Ramlogan R, Arzola C, Singh M, Chan V. The utility of ultrasound imaging in predicting ease of performance of spinal anesthesia in an orthopedic patient population. *Reg Anesth Pain Med.* 2013; 38: 34-8.