

통증 및 근골격재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

## **P 1-134**

### **Ultrasound-guided Hip Intra-articular Injection using Posterior approach and Color Doppler**

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#### **Introduction**

The majority of the literature advocating for this sonographic technique in treating the hip joint have described an anterior approach. To the best of our knowledge, there has only been a few studies evaluating US-guided hip IA injection using the posterior approach and color Doppler to observe the flow of an injected materials. Hence, we report a new method of US-guided hip IA injection using the posterior approach and color Doppler imaging to confirm the accuracy of the injection.

#### **Case**

A 72-year-old female complained of dull pain in the right hip, especially when weight was applied. She had no history of trauma. On her physical examination, the Patrick's test was positive; however, there was no loss of passive motion in the hip joint and no tenderness in the sacroiliac joints. The initial level of pain at the hip was rated 7 out of 10, on a numeric rating scale (NRS) during Patrick's maneuver. On magnetic resonance image of the hip joint, there was no abnormal finding except degenerative osteoarthritis. The patient was placed in the left-lateral decubitus position with the hip flexed slightly. After finding the hip joint space as close as possible to the femur neck using a 2-5 MHz curved ultrasound probe, it was regarded as the target of US-guided hip IA injection to avoid injury of cartilage around the femoral head. The needle is inserted in-plane to the transducer in a medial to lateral direction. To confirm the accuracy of the injection, the flow of the injected material can be observed using color Doppler imaging. After the injection, she was educated on the appropriate posture and exercise. One week after the injection, she reported significant pain relief; pain intensity decreased from 7 to 3, on NRS.

#### **Conclusion**

US guided hip IA injection has been shown to be just as accurate as fluoroscopic guided hip IA injection. Moreover, this noninvasive imaging modality eliminates radiation exposure. However, in the anterior approach, the needle is inserted lateral to the femoral neurovascular bundle. Hence, it may not be possible for physiatrists to completely avoid

causing injuries to the neurovascular tissues during this procedure. In contrast, US-guided hip IA injection using the posterior approach may be advantageous in that it may minimize the risk of injury to the neurovascular tissues, because vulnerable neurovascular tissues, such as the femoral nerve, are not located in the needle pathway. Moreover, the use of color Doppler allows the location of vulnerable vessels to be determined in advance and allows the identification of the flow of the injected materials, which can add to the accuracy of intra-articular injection. Hence, a new method of US-guided hip IA injection using the posterior approach and color Doppler imaging can be a good alternative method for hip IA injection

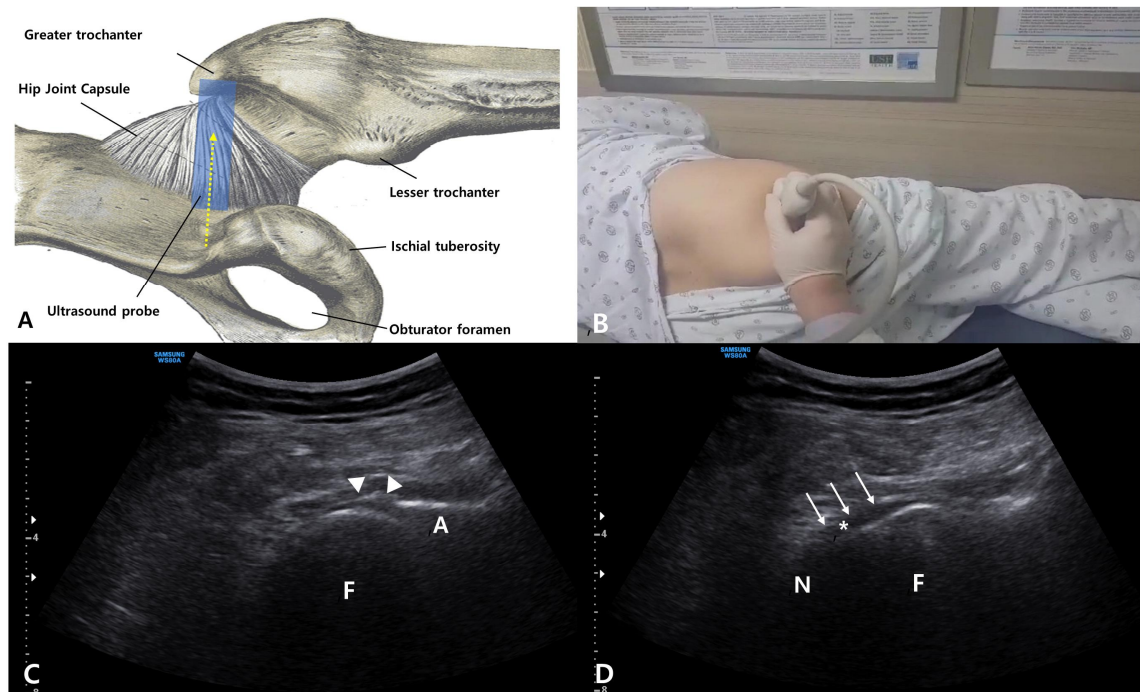


Figure 1. (A) Anatomy around the hip joint. (B) The patient was placed in left-lateral decubitus position with slight hip flexion (20 degree). As in a figure 1-B, the probe was moved by an examiner for searching a proper position of US-guided hip intra-articular (IA) injection. (C), (D) Sequential ultrasound images around the hip joint. After finding the hip joint space as close as possible to the femur neck, it was regarded as the target of US-guided hip IA injection (asterisk) to avoid injury of cartilage around the femoral head. A; Acetabulum, F; femoral head, N; femur neck, Arrowhead; glenoid labrum, Dotted arrow; the pathway of US-guided hip IA injection. Asterisk; intra-articular space of hip joint

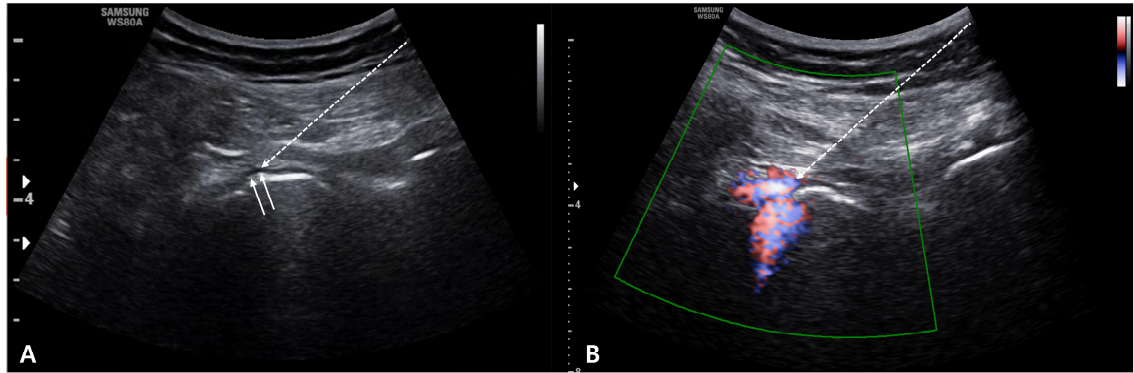


Figure 2. Ultrasound (US)-guided right hip intra-articular (IA) injection was performed. (A) Consecutive color Doppler image during US-guided hip IA injection. Dotted arrow; the pathway of needle during US-guided hip IA injection, Arrow; injected material in the hip joint space.

