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LETTER TO THE EDITOR

Letter to the editor: Ultrasound-guided posterior femoral cutaneous nerve block

Editöre mektup: Ultrason eşliğinde posterior femoral kutanöz sinir bloğu

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To the Editor,

The article titled, "Ultrasound-guided posterior femoral cutaneous nerve block,"[1] published in July 2014, offered a pioneer approach for the posterior femoral cutaneous nerve (PFCN) using image guidance. In particular, the ultrasound image in "Figure 5" is noteworthy.

The image in Figure 5 showed anatomical structures around PFCN. These structures guided us while administering local anesthetic around PFCN more accurately rather than around the sciatica nerve (ischiadic nerve). According to this image, PFCN was observed between two muscle layers of the gluteus maximus (GM) and gluteus medius (Gm) muscles. However, we believe that the muscle assigned as Gm should be either superior gemellus or obturator internus.

At the level of the greater sciatic foramen, PFCN emerges from below the piriformis muscle, medial to and in parallel with sciatic nerve, and travels caudally in the posterior compartment of the thigh. At the level of the ischial spine and lesser sciatic foramen, PFCN goes superficially across the superior gemellus muscle, obturator internus muscle, and inferior gemellus muscle sequentially.

According to our study, PFCN can be recognized from the "piriformis plane" using curve and a linear probe with ultrasound (UP200 BENQ, Medical Technology Corp.). First, we find the piriformis muscle and sciatic nerve in the parasacral view (Fig. 1). Then, we move the ultrasound probe caudally and identify the obturator internus muscle (Figs. 2, 3). PFCN is located under GM and medial to the sciatic nerve (Fig. 3).

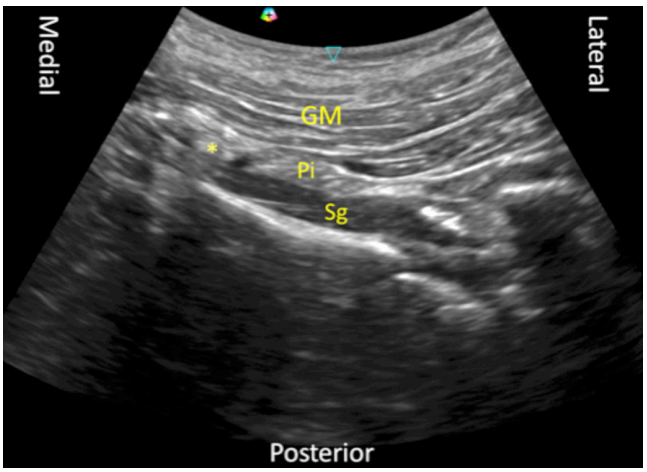

Figure 1. Parasacral view. GM: Gluteus maximus muscle; Pi: Piriformis muscle; Sg: Superior gemellus (Sg) muscle; * PFCN and sciatic nerve.

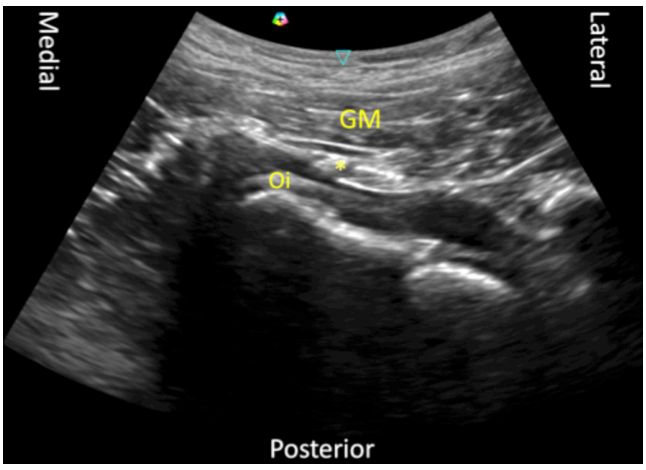

Figure 2. Move the ultrasound probe caudally in the parasacral view. GM: Gluteus maximus muscle; Oi: Obturator internus muscle; * PFCN and sciatic nerve.

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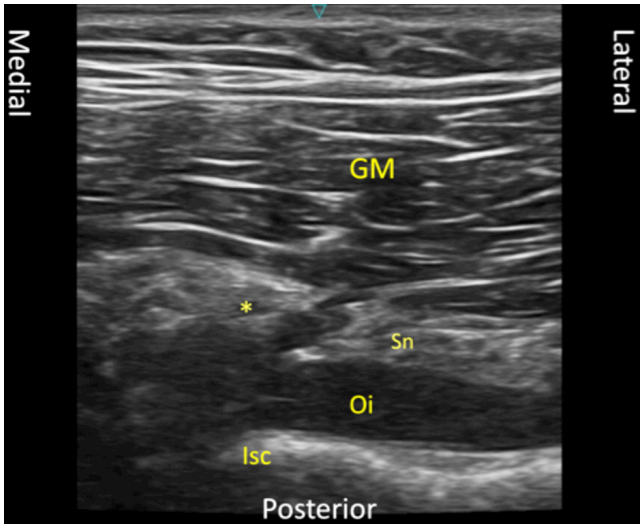

Figure 3. With a linear probe, we can recognize the anatomical structures around the posterior femoral cutaneous nerve (PFCN) (*) in detail. Landmarks include the gluteus maximus (GM), the sciatic nerve (Sn), and the obturator internus muscle (Oi). The ischium (Isc) is located beneath these structures. The superior gemellus, Oi, and inferior gemellus muscles can also be found underneath the PFCN and the sciatic nerve.

In addition, we can recognize PFCN from the posterior thigh.[2] In the proximal posterior thigh with the transverse view, we can recognize the sciatic nerve as the largest nerve fiber in this area. Superficial and medial to the sciatic nerve, PFCN is located medial to the biceps femoris muscle and deep to the GM muscle (Fig. 4). From this view, we can scan up to the buttock area and obtain the view as seen in Figure 3 around the gluteal crease.

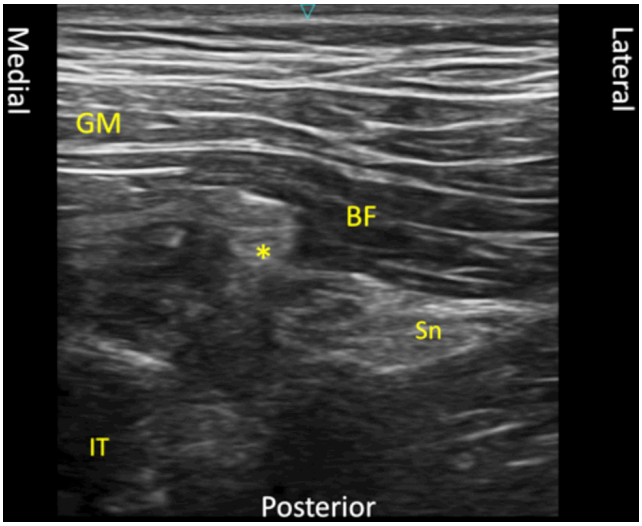

Figure 4. Transverse view of the proximal posterior thigh. The sciatic nerve (Sn) is the largest nerve fiber in this area. Superficial and medial to the sciatic nerve, the posterior femoral cutaneous nerve (*) is located medial to the biceps femoris muscle (BF) and deep to the gluteus maximus muscle (GM). IT: Ischial tuberosity.

In conclusion, PFCN can be identified between GM and the muscle bulk of superior gemellus, obturator internus, and inferior gemellus. It runs distally medial to the sciatic nerve.

References

1. Topçu I, Aysel I. Ultrasound guided posterior femoral cutaneous nerve block. Agri 2014;26(3):145–8. [CrossRef]
2. Kamenetsky E, Nader A, Kendall MC. Use of Peripheral Nerve Blocks with Sedation for Total Knee Arthroplasty in a Patient with Contraindication for General Anesthesia. Case Reports in Anesthesiology 2015:1-4. [CrossRef]