

Ultrasound-Guided Obturator Nerve Block The Importance of the Medial Circumflex Femoral Vessels

Accepted for Publication: 16 May 2012

To the Editor:

We read with interest the excellent work of Manassero et al¹ concerning a new approach of ultrasound-guided interfascial obturator nerve block. Although injections of local anesthetic between the planes of the adductor muscles is a very successful technique for blocking the obturator nerve, it is of great importance for the operator to clearly describe the intrafascial course of the vessels at this anatomic region. This possibility of vascular puncture occurring could have also been discussed.

In the inguinal-femoral region, vascular structures must be recognized during ultrasound scanning, in particular, the medial circumflex femoral artery and vein. These vessels arise from the medial and posterior aspect of the profunda femoris

vessels or sometimes directly from the femoral vessels and run intrafascially between the pectineus and iliopsoas muscles and then between the obturator externus–adductor magnus and the adductor brevis muscles.^{2,3}

Because of the close relationship of the medial circumflex femoral artery and vein with the obturator nerve divisions and subdivisions, it is important to detect sonographically the vascular components of the region before needle advancement.³ Manipulation of the ultrasound transducer may visualize the exact anatomic course of these vessels and thus avoid puncture or intravascular local anesthetic injection (Fig. 1).

In conclusion, the inguinal-femoral anatomic region is a highly vascularized area, and it is crucial for the anesthesiologist to identify major vascular components before the implementation of any obturator nerve block.

Tilemachos Paraskeuopoulos, MD

Department of Anatomy
Medical School
University of Athens
Athens, Greece

Theodosios Saranteas, PhD

Department of Anesthesia
and Cardiovascular Critical Care
Attikon Hospital, Medical School
University of Athens
Athens, Greece

The authors declare no conflict of interest.

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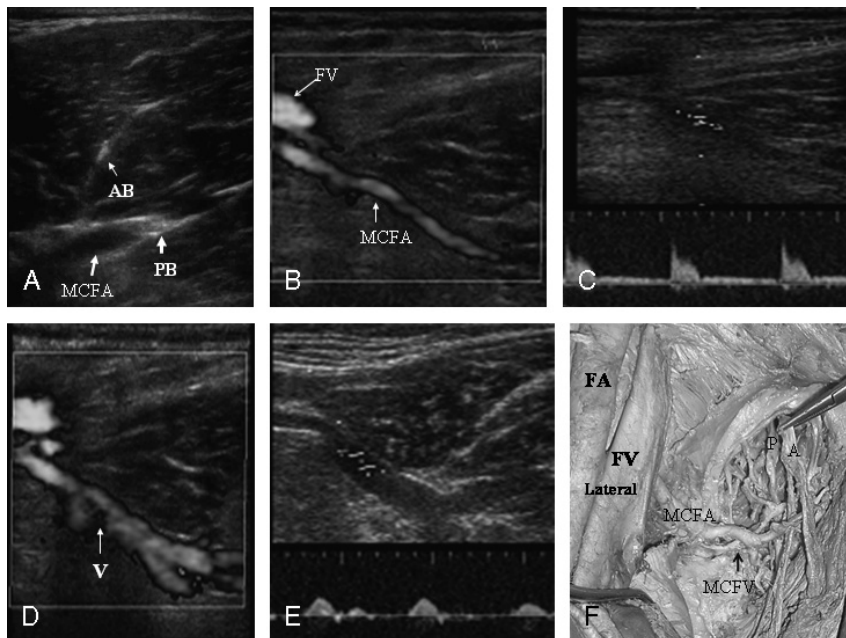


FIGURE 1. A, Relationship of the medial circumflex femoral artery (short-axis view) with the obturator nerve divisions. MCFA indicates medial circumflex femoral artery; AB, anterior branch of the obturator nerve; PB, posterior branch of the obturator nerve. B, Power color Doppler depicts medial circumflex femoral artery (long-axis view). FV indicates femoral vein; MCFA, medial circumflex femoral artery. C, Pulse wave Doppler analysis of medial circumflex femoral artery. D, Power color Doppler depicts medial circumflex femoral vein (long-axis view). E, Pulse wave Doppler analysis of the medial circumflex femoral vein. F, Anatomic relationship of the medial circumflex femoral vessels with the obturator nerve divisions and subdivisions. FV indicates femoral vein; FA, femoral artery; MCFA, medial circumflex femoral artery; MCFV, medial circumflex femoral vein; P, posterior branch of the obturator nerve; A, anterior branch of the obturator nerve (with courtesy obtained from the archives of Sofia Anagnostopoulou, Department of Anatomy, University of Athens, Greece).