

Anatomic Variation of the Internal Oblique Muscle Detected during Transversus Abdominis Plane Block

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Case Report

We report a 35 years-old female patient with a body mass index of 29.7 kg/m² to whom we performed a transversus abdominis plane (TAP) block following caesarean section. Her past medical history was uneventful. The surgery was performed under general anaesthesia since she refused spinal anaesthesia. She gave written informed consent for the application of TAP block at the end of the operation for postoperative pain control. During application of TAP block under general anaesthesia and under ultrasound guidance, we came across an anatomic variation of the unilateral internal oblique muscle (Figure 1). Internal oblique muscle fascia merged with fascia of the external oblique muscle by a fibrous band which resulted with an interruption in the internal oblique muscle. We carefully injected the local anaesthetic agent to the neurofascial anatomic space between the internal oblique muscle and transversus abdominis muscle. Patient was extubated uneventfully at the end of procedure.

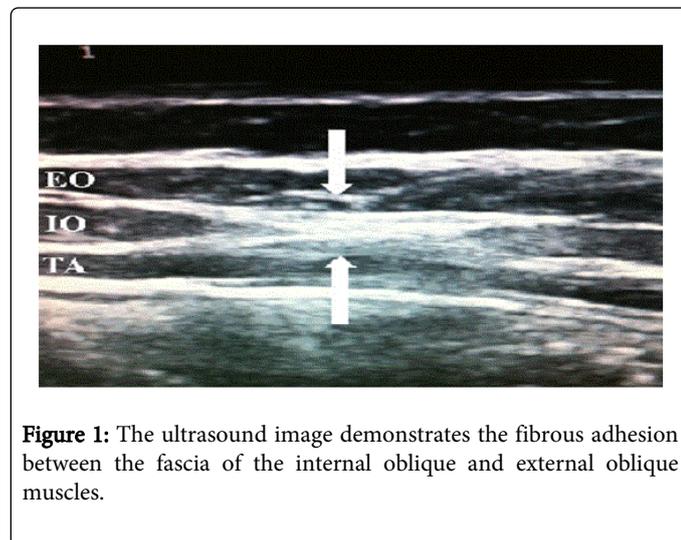


Figure 1: The ultrasound image demonstrates the fibrous adhesion between the fascia of the internal oblique and external oblique muscles.

Blocking of the sensory nerves originated from the lower six thoracic and first lumbar nerve roots and producing a regional,

abdominal wall nerve block can be acquired by a single TAP block procedure which involves local anesthetic injection to fascial plane between the internal oblique and transversus abdominis muscles [1]. TAP block is reported to be an effective method to reduce use of postoperative analgesics in patients undergoing caesarean section [2]. The procedure can be applied by either the classical blind technique or under ultrasound guidance [1,3]. In the blind technique which was first described by Rafi', the procedure is directed according to the double-pop feeling that occurs during passage of the needle through the fascias of the external and internal oblique muscles [1]. In TAP block procedures that are applied without ultrasound guidance, anatomic variations may cause confusions in feeling the expected double-pop and this may lead to injuries of the intraabdominal organs [4]. As a result of our literature search, we could meet only one case report that describes an anatomic variation of the internal oblique muscle [5].

In conclusion, TAP block procedures are frequently used for postoperative pain control nowadays. We believe that, the blind technique that does not use the guidance of ultrasound may lead to intrabdominal organ injuries in the presence of possible anatomic variations of the internal oblique and transversus abdominis muscles.

References

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