(V-SCAN with dual probe; GE Healthcare, Waukesha, Wisconsin, USA; Fig. 1A). The sciatic nerve was identified in the popliteal fossa at the level of its bifurcation in both longitudinal and cross-sectional views (Fig. 1B and C). Nerve block was performed distal to its bifurcation by using a 21 or 19 gauge needle (Pajunk GmbH, Geisingen, Germany) if a peripheral nerve block catheter was to be placed. In eight of 15 patients, a continuous peripheral nerve block catheter was inserted. After local anaesthetic injection (Fig. 1D), the progress of the sensory block was assessed at 5 min intervals for the first 20 min. Sensory function was assessed as sensation to pinprick with a 23 gauge needle in the tibial (plantar area of the foot) and common peroneal (dorsal area of the foot) anatomical territories. Sensory function was graded as follows: zero, normal; one, moderate sensory loss; or two, complete sensory loss. Additionally, static and dynamic visual analogue scale scores were measured. A total score of three out of four was considered as successful sensory block.

According to our results, the block success rate was 100%, and the static and dynamic visual analogue scale scores were zero at 20 min. No complications, including vascular puncture and local anaesthetic toxicity, were observed. A paraesthesia response was elicited in five of 15 patients. Postoperative neurological examination after recovery of sensory and motor function of the lower limb revealed no neurological deficit.

A pocket-sized ultrasound linear probe seems to facilitate popliteal sciatic nerve block, providing a feasible and safe technique for perioperative pain management in patients with lower limb injuries. Further studies are required in order to validate our observations.

Declaration of interest

None declared.

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Ultrasound standard for obturator nerve block: the modified Taha's approach

Editor—Obturator nerve block has long been recommended in combination with spinal anaesthesia to prevent complications associated with transurethral resection of bladder tumours. Recent evidence regarding lateral wall tumour indicates that it may prolong the time to cancer recurrence,[1] hence there is a need for setting the ultrasound standard for obturator nerve block. Various approaches have been proposed to accomplish obturator nerve block, with the two branches blocked either more proximally in the same plane or more distally in the different planes. The main problem with the latter is the highly variable distribution pattern of the anterior branch, and at least two injections, probably with different minimum volumes, are required[2] since branches in the different planes are separated by soft tissues and usually divide into further divisions within adjacent muscles.[3] Therefore efforts should be made toward proximal targeting of the nerve and injection into the thick hyperechoic fascia between the pectineus and obturator externus muscle as Taha suggested;[4] however, this should be performed with some modification. The importance of the thick hyperechoic fascia and its modifications are described.

First, the pectineus muscle is always situated in front of branches of the obturator nerve,[5] thus injection underneath the pectineus muscle allows a single injection. Second, the visibility of the thick hyperechoic fascia underneath the pectineus muscle is good,[6] providing an extra soft tissue landmark in addition to the superior pubic ramus as the bony landmark. Third, the dense connective tissue layer underneath the pectineus muscle might avoid local anaesthetic distribution too distally, thus allowing intrapelvic spread along the obturator canal.[7] The out-of-plane approach targeting this thick hyperechoic fascia, although already proposed by Taha,[4] might not be safe enough in this vessel-rich needle trajectory since the medial circumflex femoral artery courses across the surface of the pectineus and at the plane of injection the obturator artery lies deep to the obturator nerve, in addition to many venous connections.[8] With the advent of the true echogenic needle, it is better to accomplish obturator nerve block with the needle in-plane under the monitoring of colour power Doppler.[9] Furthermore, to avoid needle contamination by gravity-dependent gel flow in case of inferomedial insertion in the inguinal crease and to more ergonomically facilitate the transducer along the visual axis,[10] a lateral-to-medial approach is recommended. Dissecting this thick hyperechoic fascia between the pectineus and obturator externus muscle from lateral-to-medial does not require thigh abduction (Fig. 1A) and also helps ensure that the branches are covered since nerve visualization is not always possible, especially before local anaesthetic injection.

In conclusion, Taha's approach into the thick hyperechoic fascia between the pectineus and obturator externus[4] should be the first choice whenever possible, but it should be modified to a lateral-to-medial approach with the echogenic needle in-plane to reach the target (Fig. 1B and C). However, there are limits to the current knowledge and available techniques regarding obturator nerve block for transurethral resection of bladder tumours, as the accessary obturator nerve, with an incidence of 10–30%, cannot be completely covered. Therefore an overextended bladder should be avoided to stimulate the accessary obturator nerve if present. Finally, the modified

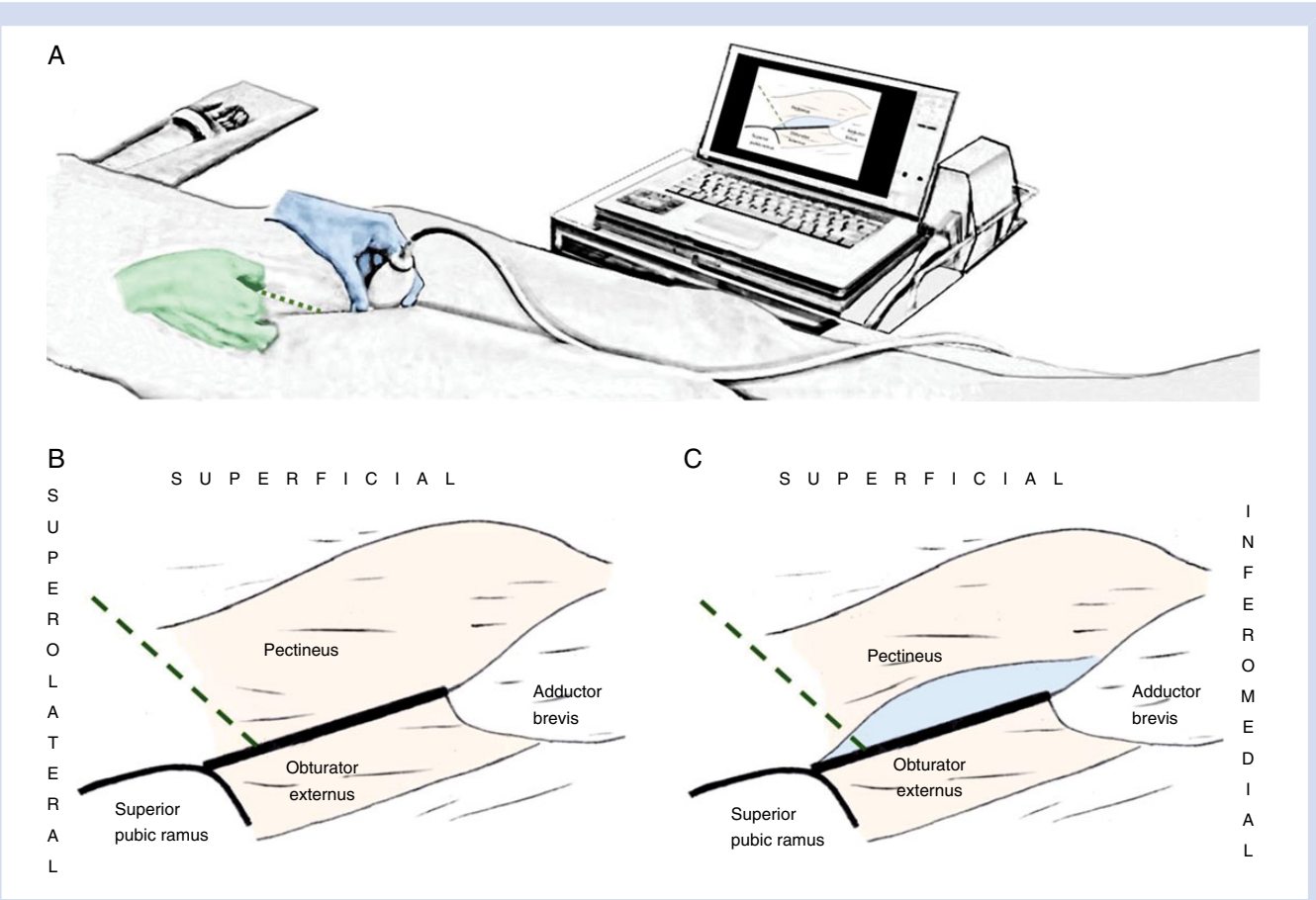

Fig 1 Modified Taha's approach for proximal obturator nerve block. The echogenic needle is inserted by the dominant hand (green hand) from lateral to medial in the inguinal crease with the long axis of the transducer oriented along the visual axis (A). The ultrasound transducer (held by the non-dominant hand in blue) is tilted cephalad as Taha suggested by using the inferior margin of the superior pubic ramus as the bony landmark to find the thick hyperechoic fascia in between the pectineus and obturator externus,[4] but instead is reached with the in-plane needle trajectory (green dotted line) (B). Local anaesthetic spread (blue area) into this thick hyperechoic fascial plane usually results in separation and elevation of the pectineus fascia (C).

Taha's approach will, in theory, also block the communicating ramus to the anterior branch of the obturator nerve as it runs its course beneath the pectineus.[11]

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Comparison of transversus abdominis plane block and epidural analgesia for pain relief after surgery

Editor—Epidural analgesia, considered as the 'gold standard' for postoperative analgesia, has recently been used less because of a high risk–benefit ratio. Moreover, there are a number of clinical situations where epidural analgesia is contraindicated. Transversus abdominis plane (TAP) block, which has shown effective pain relief compared with no intervention or placebo after abdominal surgery in a previously published meta-analysis, may be an effective alternative analgesic approach.[1] However, the efficacy of TAP block *vs* epidural analgesia for postoperative analgesia remains controversial.

We searched the PUBMED, EMBASE, and CENTRAL databases for randomized controlled trials that assessed the analgesic efficacy of TAP block and epidural analgesia after any type of surgery, with patients of any age or sex, from database inception to 6 April 2014. The primary outcomes were pain scores at rest and on movement at 24, 48, and 72 h. The secondary outcomes were 72 h overall morphine requirement and adverse events. The risk of bias of included studies was assessed using the Cochrane risk of bias tool. A random-effects model was used when heterogeneity was significant ($I^2>50\%$).

Four studies with a total of 216 patients were included.[2–5] There was no significant difference in pain scores at rest at any end-point [for 24 h,[2–5] mean difference (MD)=0.20, 95% confidence interval (CI; −0.62, 1.02), $I^2=79\%$; for 48 h,[2–5] MD=0.28, 95% CI (−0.06, 0.62), $I^2=27\%$; and for 72 h,[2–4] MD=0.22, 95% CI (−0.25, 0.69), $I^2=67\%$] and in dynamic pain scores at any end-point [for 24 h,[2–5] MD=0.30, 95% CI (−0.22, 0.81), $I^2=29\%$; for 48 h,[2–5] MD=0.17, 95% CI (−0.53, 0.87), $I^2=65\%$; and for 72 h,[2–4] MD=0.39, 95% CI (−0.58, 1.35), $I^2=78\%$]. However, there was significant heterogeneity, except for pain scores at rest at 48 h and dynamic pain scores at 24 h. The TAP block showed a non-significant increase trend in 72 h overall morphine requirement by 8.93 mg compared with epidural analgesia [95% CI (−0.22, 18.08), $I^2=74\%$];[2–5] however, there was also significant heterogeneity in this analysis. Transversus abdominis plane block and epidural analgesia showed equivalent postoperative nausea scores in two studies.[4 5] In one study, the incidence of nausea and sedation were 19 and 44%, respectively, for TAP block, and 21 and 24%, respectively, for epidural analgesia; no significant difference ($P=0.84$ and $P=0.11$) was seen between the two groups.[3] The TAP block was associated with a significant lower incidence of hypotension than epidural analgesia [relative risk=0.09, 95% CI (0.01, 0.68), $I^2=0\%$].[2 3]

In summary, the equivalent rest and dynamic pain scores at 24, 48, and 72 h and the 72 h overall morphine requirement indicated that TAP block, with a lower incidence of hypotension, seems not to be inferior to epidural analgesia for postoperative analgesia. However, given the low number of studies and participants and the large heterogeneity among studies, the conclusion about the efficacy of TAP block and epidural analgesia for postoperative analgesia is inconclusive. A definite conclusion needs to be reached in future studies.

Declaration of interest

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High-dose tranexamic acid for treating postpartum haemorrhage after vaginal delivery

Editor—Evidence is limited for the effectiveness of tranexamic acid (TA) in postpartum haemorrhage (PPH).[1] We evaluated whether administration of high-dose TA in women with PPH≥800 ml reduces blood loss after vaginal birth.

This controlled single-center before-and-after study of all women with PPH≥800 ml after vaginal birth took place from January 2011 through March 2012; the control group included those seen from January 2011 through August 2011, and the case patients (TA group) those from September 2011 through