

3 THE EFFECT OF PASSIVE MUSCLE CONTRACTION ON THE DISTRIBUTION OF LOCAL ANAESTHETICS AFTER SUPRA-INGUINAL FASCIA ILIAC COMPARTMENT BLOCK EVALUATED ON MRI

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Background and Aims Ultrasound-guided fascial plane blocks are a recent development in modern regional anesthesia research.

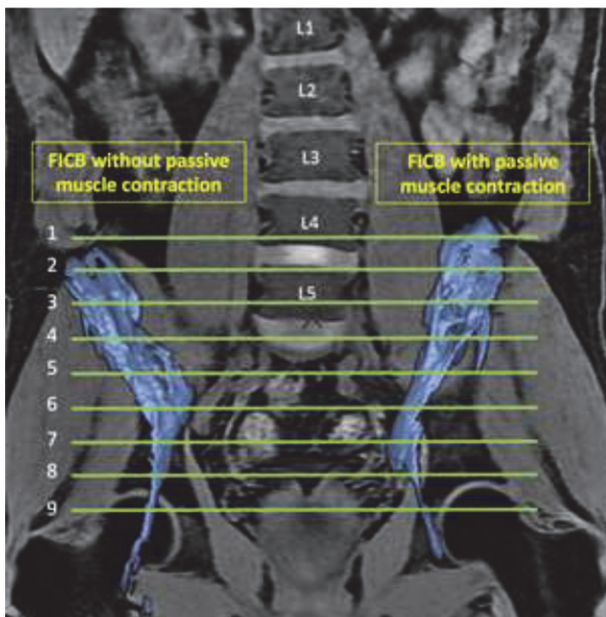
The goal of this pilot study was to look for a possible effect of passive mobilization on local anesthesia distribution after a fascial plane block (S-FICB).

The aim of fascial plane blocks analgesia is a plane between two fascial layers or between a fascia and a muscle. Perioperative movement of fascia layers or muscles may result in active transport of LA. This might be explained by the biomechanics properties of fascia and the hidden role of fascial dynamics.

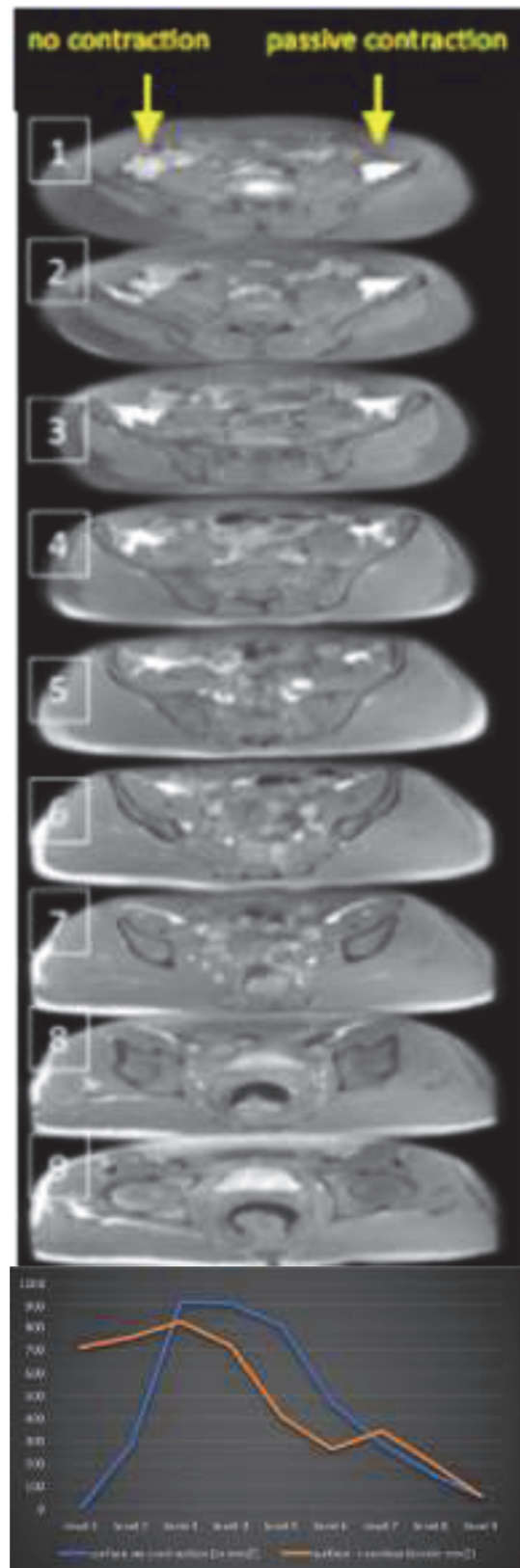
Methods A bilateral fascia iliaca compartment injection was performed on a healthy volunteer (180 cm and 83 kg). After performance of the first side a series of passive leg movements were carried out – simulating a preoperative setting during total hip arthroplasty -. After these series of movements, a second FICB was performed after which the volunteer was not moved anymore. The needle was positioned under the fascia iliaca at the level of the deep circumflex iliac artery. 40 mL of contrast was injected.

Results The MRI-images show the spread of contrast. The spread of local anesthetics is different when there is no passive muscle contraction. In this example, the spread was larger in level 3–6 and there is more spread to the posterior side of the psoas.

Conclusions The study showed that biomechanics of fascial plane can influence the distribution of local anesthetics.



Abstract 3 Figure 1



Abstract 3 Figure 2