Introduction: Iliac crest bone graft (ICBG) harvesting is associated with a significant amount of acute pain in the first 24 hours after surgery. While the transversus abdominis plane (TAP) block has been described as a method of providing analgesia for ICBG harvesting, it may not be the most suitable technique as it only blocks the L1 dermatome 50% of the time. The transversalis fascia plane (TFP) block is a novel ultrasound (US)-guided technique that reliably blocks the L1 dermatome. We report our preliminary experience with the TFP block for analgesia for ICBG harvesting.

Methods: Following institutional ethics board approval, we retrospectively reviewed patients who had undergone anterior ICBG harvesting in conjunction with distal forearm surgery between 1 November 2009 and 30 April 2010. All patients received a single-shot brachial plexus block for anesthesia of the primary surgical site, and either general anesthesia (GA) or spinal anesthesia (SA) for the ICBG harvest site. Patients who had spinal anesthesia were routinely sedated intraoperatively with IV midazolam, fentanyl, and propofol. Patients then received an US-guided TFP block depending on whether an anesthesiologist with necessary expertise was available. Needle tip position for TFP block was confirmed by injecting 1-3 mL of 5% dextrose solution, and followed with an injection of 20 mL of 0.5% ropivacaine with 5mcg/ml of epinephrine. The following outcomes were analysed: 1) total intraoperative dose of opioid (expressed as IV morphine equivalents), 2) total dose of opioid administered in the postoperative care unit (PACU), 3) admission pain score in PACU, 4) discharge pain score in PACU.

Results: We identified 27 patients in total, 11 of who received a single-shot US-guided TFP block prior to surgery. Anesthesia for ICBG harvesting was provided by GA in 16 patients and by SA in 11 patients. Patients who received a TFP block had a trend to lower intraoperative opioid requirements (8.9±6.6 vs. 10.5±8.7 mg IV morphine) and lower admission pain scores in PACU (1.3±1.8 vs. 2.3±2.7), as well as significantly lower PACU opioid requirements (2.0±3.7 vs. 8.3±8.2 mg IV morphine, P=0.026). In the subset of patients who had a GA, significantly lower PACU opioid requirements (3.2±4.3 vs. 9.2±7.5 mg IV morphine, P=0.08) and discharge pain scores (1.1±2.0 vs. 4.0±2.6, P=0.03) were observed in those who received a TFP block compared to those who did not.

Discussion: This small retrospective review supports the analgesic efficacy of the TFP block in ICBG harvesting. We are presently conducting a randomized controlled trial to verify these findings and to further define the clinical characteristics of the block.