Abstract #2115

Randomised Controlled Trial of Ankle Block Versus Metatarsal Block for First Ray Surgery

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Introduction/Purpose: First ray arthrodesis or osteotomy is a day surgery procedure performed commonly under general anaesthetic. One of the aims with such procedures is to ensure our patients are discharged on the day of surgery and are relatively pain free on discharge. This is often achieved by the use of local anaesthetic blockades, either as an ankle block or as a metatarsal block.

There are studies published on the effectiveness of ankle block for first ray surgery but there is a dearth of studies on metatarsal block. Therefore the aim of this study is to compare the effectiveness of ankle block versus metatarsal block in conjunction to general anaesthetic for first ray surgery.

Methods: Both local trust board approval and National Research Ethics Committee approval were granted for the study. Statistical analysis to ensure an adequately powered study was performed.

Fifty patients undergoing arthrodesis or osteotomy of the first ray were recruited into this study and randomly allocated to the cohort to receive either a metatarsal block or an ankle block.

All patients had general anaesthesia. Those patients randomized to ankle block had this performed after induction of general anaesthesia using ultrasonography. Those patients randomized to metatarsal block had this performed at the end of the operative procedure.

Patients scored their pain level using a visual analogue scale (0-10) at 2, 6 and 24 hours. A physiotherapist, who was blinded to their treatment arm, assessed patients at hourly intervals from two hours. Patients were contacted by telephone by a research nurse, who was also blinded to their treatment arm, over 24 hours from discharge.
Results: Forty-eight patients completed the study: 25 in the ankle block treatment arm and 23 in the metatarsal block arm. The majority of the patients were female (44 patients) with an average age of 53 years (range 31-76 years).

Analysis of pain scores showed that there was no statistically significant difference between the two groups at any of the measured time periods. Analysis of their analgesic requirement in the first 24 hours after surgery again revealed no striking difference between the two cohorts. Similarly analysis of the time taken to safely mobilise revealed that there was no difference between the two groups.

However analysis of the time taken to perform the anaesthesia highlighted a mean addition of eleven minutes when an ultrasound guided ankle block was performed.

Conclusion: This prospective randomised blinded study demonstrates that metatarsal blocks are just as effective in giving post-operative analgesia as ultrasound guided ankle blocks in patients undergoing first ray surgery under general anaesthetic.