Characterisation of Rebound Pain following Axillary Brachial Plexus Block

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Introduction

A proportion of patients are likely to experience significant pain beyond that expected, following resolution of their peripheral nerve block [1]. Multiple mechanisms, including "memory" pain receptors [2], and the direct neurotoxic effect of local anaesthetics [3] have been hypothesised.

There is a lack of prospective research to ascertain the incidence of rebound pain [1].

This study aims to characterize rebound pain in patients following axillary brachial plexus block (ABPB).

Methods

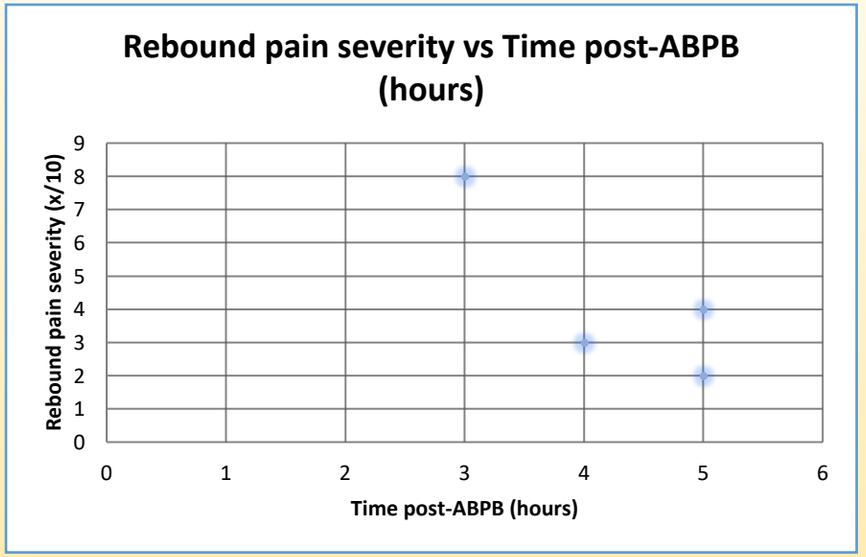
A case-series of 20 ASA I-III patients undergoing an ABPB for operative fixation of hand, wrist or forearm fractures has been targeted.

Patients were asked to complete a 24h pain diary from pre-block at arrival until the first postoperative day including hourly pain scores (0 no pain, 10 worst pain imaginable) and elements of the short McGill questionnaire.

Information about type of surgery, block performance, intra- and postoperative analgesia was also collected.

Results

Six patients completed the study thus far. On arrival, patients had a mean (SD) pain score of 4.0 (2.68) at rest, and 6.3 (2.16) on movement. All patients received 2% lignocaine 200-400mg, two patients also received 10-20ml 0.5% bupivacaine and two patients received 2% lignocaine/epinephrine mixture. Four (66%) patients experienced rebound pain at a mean of 4.25 (0.96) hours post-ABPB. Mean intensity of reported pain at onset was 4.25 (2.63). Mean intensity of most severe rebound pain was 6.5 (3.11). Adjectives used to describe rebound pain were mild (25%), distressing (25%) aching (75%), sharp (50%), stabbing (50%), shooting (50%), discomforting (100%), heavy (25%), gnawing (25%), burning (25%), throbbing (25%), splitting (25%) and fearful (25%). Time (mins) to first post-op analgesic requirement was 136.25 (87.5). Four (66%) patients received paracetamol 1g intraoperatively. One patient received morphine 2mg and fentanyl 100mcg intraoperatively. One patient received diclofenac 75mg intraoperatively. All patients who experienced rebound pain used 1g paracetamol QDS in the post-operative recovery period. One patient required IV morphine within 5 mins post-procedure, and a repeat dose of IV morphine 180 minutes later.



Conclusions

Our interim results highlight both the presence and characteristics of rebound pain following APBP.

This will inform further research into risk factors for rebound pain and strategies to prevent it.

References

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