

ABSTRACT

Introduction

Wide awake anaesthesia with no tourniquet (WALANT) is a safe and acceptable method to perform hand surgery. Local anaesthesia used in WALANT is predominantly Lignocaine with adrenaline, however, although there is proof that Bupivacaine with adrenaline added to Lignocaine is just as safe and effective, the literature on this is limited.

Hand operations performed on adult patients in the hand unit in Charlotte Maxeke Johannesburg Academic Hospital are routinely performed with a regional anaesthetic block combined with tourniquet to achieve a bloodless operative field. Per unit protocol, the local anaesthetic used is Lignocaine, with longer acting Bupivacaine added for longer operations.

To incorporate the multiple advantages of WALANT in Charlotte Maxeke Johannesburg Academic Hospital's hand unit, the objective of this study was to evaluate four important factors in a group of patients operated under local anaesthesia with no tourniquet (WALANT) using Bupivacaine with adrenaline, compared to the control group of patients operated with regional block using Lignocaine and tourniquet namely:

- 1) Pain, 2) Haemostasis, 3) Time efficiency, 4) Toxicity of Bupivacaine with adrenaline (for which standard theatre procedures are in place, should it occur).

Methodology

A prospective study was performed at the Hand Unit of Plastic Surgery at CMJAH, of adult hand patients over the age of 18 years admitted for hand operations for elective and trauma surgery performed under local block.

Pain was evaluated by the patient's perception of pain during surgery. Patients graded their pain according to a Numeric Pain Grading scale. Haemostasis was evaluated by excessive bleeding obscuring the operative field resulting in a need to swab excessive bleeding with swabs. Time efficiency was assessed by observing the waiting time spent prior to the first incision and total time was calculated by adding the time from first incision to the additional time spent on achieving a bloodless operative field. Toxicity of Bupivacaine with adrenaline combination was assessed by local anaesthetic related complications intra operatively. Standard theatre procedures are in place, should signs of toxicity occur. The sample of 72 was divided into two groups of 36 each, one half of the participants had trauma operations and the other half elective operations. The patients in each group were randomly assigned to the study group (WALANT with Bupivacaine and adrenaline) and the control group (local block with lignocaine and tourniquet) The outcomes of the study results may lead to improvement in patient care in hand surgery by proving the safe use of Bupivacaine advantageous.

Results

Pain was found not to be more severe in either group. Bleeding was more severe in WALANT group compared to the control. Time to first incision for both groups was statistically similar. There was moderate evidence that there was a difference in total time between the two groups. There was no toxicity in any patient group.

Conclusion

To our knowledge, this is the first study reporting on Bupivacaine use exclusively in WALANT. In this local, prospective study carried out on 72 patients at the Hand unit of the Department of Plastic and Reconstructive Surgery at CMJAH, it was found that

Bupivacaine can be used effectively and safely in WALANT. However due to the relatively small sample of the study, a further larger study would be advisable to achieve results with a greater statistical significance.