

A Case Series On Plating Of Distal Radius (DR) Fractures Using The Wide Awake Local Anaesthesia No Tourniquet (WALANT) Approach

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INTRODUCTION:

Plating of distal radius (DR) fracture is typically performed under general or regional anaesthesia with a tourniquet. Decision for fracture fixation in older patients is often made with caution as increasing age is associated with decreasing fitness and higher likelihood of chronic illnesses. Physiological derangements precipitated by anaesthesia or surgery may cause patients with comorbidities to decompensate. Many of them are unable to undergo surgery until they are deemed fit for surgery or anaesthesia while some are conservatively treated. Fixation of DR fracture, especially unstable type, is essential to enable patients to regain full wrist function for activities of daily living. Many hand surgeons have found injecting lidocaine and epinephrine into the surgical field and without using a tourniquet to be advantageous for various hand surgeries. However, it has not been used in fixation of fractures beyond the wrist. This case series aims to evaluate the wide awake approach as an alternative anaesthesia for fixation of DR fracture.

MATERIALS & METHODS:

Five patients of various ages with DR fracture requiring plating were recruited for fracture fixation using WALANT approach. The solution used are as follows:

50 ml of 0.9% Normal Saline
50 ml of Lidocaine HCL 2%
1 ml of Adrenaline Acid Tartrate 0.18%
10 ml of Sodium Bicarbonate 8.4 %.

Safe dosage for lidocaine was 7mg/kg. Patient's vital signs and pain score were documented before and during the surgery.

Figure 1: Local anaesthesia along the Modified Henry skin incision

Figure 2: Injection for the subperiosteal layer

RESULTS:

All patients underwent fracture fixation using WALANT approach-without conversion to general or regional anaesthesia. Patients experienced mild to no pain during surgery. None reported any adverse effects from lidocaine or epinephrine.

Figure 3: Clear view of the operative field was achieved with minimal blood loss

DISCUSSIONS:

Pain intensity increased during fracture fixation for some patients but was tolerable. Initial local anaesthesia was injected into periosteum of radius based on estimation of fracture site. Additional lidocaine can be added to achieve a completely pain free area when fracture sites are exposed and periosteum at and around fracture site tested for pain.

Stable haemodynamic parameters and absence of adverse effects from lidocaine and epinephrine makes WALANT approach a safe alternative for anaesthesia. None of the patients developed finger necrosis following injection of epinephrine. Vasoconstriction by epinephrine reduced bleeding from surrounding tissues and enabled good visualization of the operating field. This obviates the need for a painful tourniquet.

CONCLUSION:

WALANT approach can be used for plating of DR fracture as it is able to provide adequate pain relief, reduces bleeding thus resulting in clear operative view and no adverse effects.