



Research Article

Serratus Anterior Plane (SAP) Wound Infiltration Catheter for Thoracotomy Pain

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Introduction

Thoracotomy is associated with severe post-operative pain resulting from incision that involve multiple muscle layers, rib resection, and continuous irritation of the pleura by chest tubes motion as the patient breathes. Post-thoracotomy acute pain control is mandatory to keep the patient comfortable, allow him to cough & breathe deeply without splinting thus minimizing pulmonary complications such as respiratory failure & pneumonia as well as preventing the development of post thoracotomy chronic pain syndrome in which incidence was found to be as high as 80% at 3 months, 75% at 6 months, and 61% at one year after surgery; incidence of severe pain is 3-5%, and pain that interferes with normal life is reported by about 50% of patients [1-12].

Discussion

Since many years, several pain control procedures have been described & succeeded in lowering the postoperative pain scores, among which, thoracic epidural, paravertebral blocks, intercostal nerve blocks & narcotics, were the most common. On the other hand, serious complications such as hypotension, bleeding, total spinal, pneumothorax & failure were recorded. In addition, time, trained hands & tight control of coagulation profile were required all the time. Thus came the need for a safer & easier option yet equally effective. On 2013, Blanco was the first to describe the SAP block as a novel ultrasound guided inter-fascial plane block then two more successive case reports were published on 2015 & 2016 by Rajashree & Korgun respectively. In all three studies, SAP block was given under ultrasound guidance & was successful in providing anesthesia and/or analgesia of the upper anterior chest wall while avoiding some of the more serious complications associated with neuro-axial techniques or TPVBs, but still time consumption, trained hands & an ultrasound machine were the limitations of that technique. We have thought of overcoming

these limitations by asking our surgeons to insert a multi-hole infiltration catheter under vision in the serratus muscle facial plane just at the end of the surgery through which Ropivacaine infusion is delivered before patient's extubation [13-31].

Methods

During 2016, we have included all patients who underwent anterior thoracotomy in Rashid hospital & SAP catheters were inserted & fixed by surgeons under vision & complete aseptic precautions at the end of the surgical procedure, then a bolus of 20ml Ropivacaine followed by infusion of 5ml/hr of 0.2% Ropivacaine for 48hs during which patients were kept in high dependency units for close observation of vitals, pain scores & respiratory complications.

Results

All patients showed stable vitals, low pain scores (2/10) with deep breathing, coughing & using the incentive spirometry, none of the patients needed opioids in the post-operative period & none of them developed whether respiratory or any other complications. Moreover, all Our patients have been followed up at 3months & 6 months & as of now not a single incidence of chronic pain have been noticed. In conclusion, SAP wound infiltration catheter was found to be an easy, effective, complications free, doesn't require special skills or machines & not time consuming.

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