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Ropivacaine Wound Infiltration In Patients Following Major Shoulder Surgery

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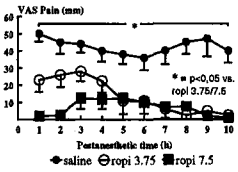
Introduction: Management of pain after major shoulder surgery following general anaesthesia remains challenging. This study investigates if ropivacaine wound infiltration is an effective treatment for pain following major shoulder surgery. **Methods:** Following IRB approval and informed consent, 45 patients undergoing major shoulder surgery were anaesthetized with continuous infusion of 0.04 mg/kg·h alfentanil and 10 mg/kg·h propofol. At the end of surgery, patients were randomly assigned to one of three groups (n=15 each): 1) isotonic saline; 2) ropivacaine 3.75 mg/ml; and, 3) ropivacaine 7.5 mg/ml. Ten ml of each solution was administered subcutanously and 20 ml into the wound drain which was clamped for ten minutes. Postoperative pain was provided *via* PCA with piritramide (3.5 mg boluses). Pain was assessed using a 100 mm visual analog scale (VAS).



Results: Pain scores were significantly lower in both ropivacaine groups compared to saline during the initial ten postoperative hours. Additionally, pain scores were lower in patients given ropivacaine 7.5 than those given 3,75 during the initial 4 h. After saline treatment, patients required 42 ± 14 mg piritramide during the first postoperative day. Piritramide requirement was significantly less following ropivacaine 3.75 (28 ± 7 mg, $P < 0.05$ *vs.* saline) and ropivacaine 7.5 (14 ± 9 mg, $P < 0.05$ *vs.* saline and ropivacaine 3.75). **Conclusion:** Both ropivacaine 3.75 mg/ml and 7.5 mg/ml wound infiltration proved to be an effective treatment for severe pain following major shoulder surgery.

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ROPIVACAINE VERSUS BUPIVACAINE/SUFENTANIL FOR POSTOPERATIVE CONTINUOUS EPIDURAL ANAESTHESIA AFTER MAJOR ABDOMINAL SURGERY

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Introduction Because of its lower toxicity,[1] ropivacaine may have an advantage over bupivacaine in cases where high cumulative doses result from continuous epidural application during the postoperative period. The present prospective randomized single blinded trial examines if continuous epidural analgesia with 0.2% ropivacaine is equivalent to bupivacaine 0.125% with sufentanil with respect to analgetic effectivity and side effects. **Methods** After approval of the local Ethics Committee and informed written consent, 30 women (55±15 yr, weight 71±19 kg, height 169±7 cm) undergoing major abdominal gynecological tumour surgery received a thoracic epidural catheter (T6-T11) before general anaesthesia was induced. Patients were randomly allocated to receive continuous epidural infusion of 0.15 ml kg^{-1}ropivacaine 0.2% (group 1) or bupivacaine 0.125% with 0.5µg ml^{-1}sufentanil (group 2) for postoperative pain management during the first 24 hours on the ICU. The quality of analgesia was assessed using visual analog scales for investigators and patients who were blinded to the applied drug. Intensity of the motor block, spread of analgesia, haemodynamic parameters and supplemental analgetic requirements were registered. **Results** With the exception of age (gr. 1: 63,1±16,1 *vs. Gr. 2:* 46,3±9,1, p<0.001), patients did not differ in demographic characteristics, duration (155±77 vs 170±56 min) and extension of surgery. In contrast to VAS at rest (16±24 *vs.* 5±12, p=0,14),VAS values were higher in group 1 (63±30 *vs.* 30±20, p<0.009) during mobilisation. Intensity of motor blockade and side effects were comparable low in both groups. **Conclusion** The present study shows, that the mixture of bupivacaine 0.125% and sufentanil provides a more profound pain release during mobilisation after major gynaecological surgery than 0.2% ropivacaine. **References** 1. BJA 1997; 78 (5): 507-14

Special topics in anesthesia

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Definition of ARDS Therapy Entry Criteria: Crisp versus Fuzzy Evaluation

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Introduction

In general information in medicine is inherently uncertain. Therefore classical logic which offers two possible states – yes or no – is inadequate to represent medical knowledge. To define a minimal set of therapy entry criteria, the conditions originally defined as logical terms are expanded into fuzzy limits.

Methods

Instead of sharp boundaries between fulfilled and not fulfilled, fuzzy limits are introduced. Fuzzy limits may be seen as a blurred boundary between two threshold. The first threshold divides fulfillment from indecision and not fulfillment, the second one divides the not fulfilment section from undecided and fulfillment. The space in between the two thresholds is called the area of smooth transition. If this area degenerates to zero, the boolean logical results.

Results

We found that the evaluations without fuzzy limits result in higher scores depending on the selected boundaries of course. The result of higher scores are more items in the list of a minimal set of therpy entry criteria.

Discussion

The major question concerning fuzzy set theory is the fixing of the boundaries. There are many rules of thumb but no clear guidelines which boundaries to choose.

Acknoledgement

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