



Egyptian Society of Anesthesiologists
Egyptian Journal of Anaesthesia

www.elsevier.com/locate/egja
 www.sciencedirect.com



Research Article

Comparative study between ultrasound guided tap block and paravertebral block in upper abdominal surgeries. Randomized controlled trial

Ruqaya M. Elsayed^{a,*}, Tarek Abd El Kareim Eldahshan^b

^a Anaesthesia and Intensive Care Faculty of Medicine Al-Azhar University for Girls, Egypt

^b Clinical Department of Pathology, Faculty of Medicine, Al-Azhar University, Egypt

Received 13 August 2016; accepted 25 August 2016

KEYWORDS

U/S;
 TAB block;
 PVB

Abstract *Background:* TAP and the paravertebral block both have been described as successful as an adjunct for postoperative analgesia following abdominal procedures. The proposed benefits of both include the avoidance of neuraxial analgesic techniques and their associated risks, as well as a reported reduction in opioid consumption.

Objective: This study was to compare between ultrasound guided (TAP) block and ultrasound guided paravertebral block (PVB) and their effect as regards postoperative analgesia, the total analgesic requirements 24 h after abdominal surgeries, their impact on stress response and incidence of postoperative complications.

Methods: We performed a randomized controlled trial on 80 patients subjected to unilateral upper abdominal surgeries of both sexes, age between 20 and 50, and ASA physical status I-II. Patients were randomly divided into two equal groups: *Group (I):* 40 patients undergoing ultrasound guided unilateral transversus abdominis plane block and *Group (II):* 40 patients undergoing ultrasound guided unilateral thoracic paravertebral block.

Results: There was a significant decrease in VAS scores in PVB group with relatively longer time to 1st order analgesia and relatively lower analgesic requirements than TAP group as regards stress response and both groups attenuate increase in postoperative stress hormone with no significant difference. On the other hand PVB group decreases PONV more than TAP group with no significant difference between both groups as regards total ephedrine consumption.

Conclusion: We concluded that ultrasound guided transversus abdominis plane block and thoracic paravertebral block were safe and effective anesthetic technique for upper abdominal surgery with longer and potent postoperative analgesia in thoracic paravertebral block than transversus abdominis block.

© 2016 Publishing services by Elsevier B.V. on behalf of Egyptian Society of Anesthesiologists. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

* Corresponding author. Tel.: +201005701167.

E-mail address: drruqaya2000@yahoo.com (R.M. Elsayed).

Peer review under responsibility of Egyptian Society of Anesthesiologists.

<http://dx.doi.org/10.1016/j.egja.2016.08.018>

1110-1849 © 2016 Publishing services by Elsevier B.V. on behalf of Egyptian Society of Anesthesiologists.

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Adequate postoperative pain relief modifies the surgical stress response, aids recovery and leads to a better outcome following surgery. Local anesthesia techniques, and particularly abdominal wall field blocks, have long been recognized as an effective analgesic strategy that may be used to counteract postoperative wound pain [1].

Sensory afferent nerve branches of the lower six thoracic and upper lumbar nerves innervate the anterior abdominal wall and are the therapeutic targets of local anesthetic to provide analgesia for the abdominal surgical incision [2].

Similarly, thoracic paravertebral block (PVB) has been demonstrated to provide effective postoperative analgesia in patients undergoing minor and major abdominal surgery by blocking sensory innervation of the abdominal wall [3].

Ultrasound guidance provides direct visualization of PVS puncture and the spread of local anesthetic [4].

To date, the TAP and the paravertebral block both have been described as successful as an adjunct for postoperative analgesia following abdominal procedures. The proposed benefits of both include the avoidance of neuraxial analgesic techniques and their associated risks, as well as a reported reduction in opioid consumption. Given that the side effects of opioids are dose dependent, reducing postoperative analgesic requirements could putatively reduce the incidence of opioid-related problems, such as postoperative nausea and vomiting (PONV) [5] and preventing noxious stimuli from reaching the central nervous system and attenuating the surgical stress response so that it prevents the hyperglycemic, cortisol and adrenocortical responses to surgery [6].

2. Methods

This study was performed in general surgery operative room in Al-Azhar university hospital (Al Zahraa). Prospective randomized trial was carried out on 80 patients, of both sexes, age between 20 and 50, and ASA physical status I-II, subjected to unilateral upper abdominal surgeries (open cholecystectomy, incisional hernia) (see Figs. 1–3).

All patients gave informed consent and proper explanation of the procedures involved in this study for each patient. The study protocol was approved by the local ethical committee.

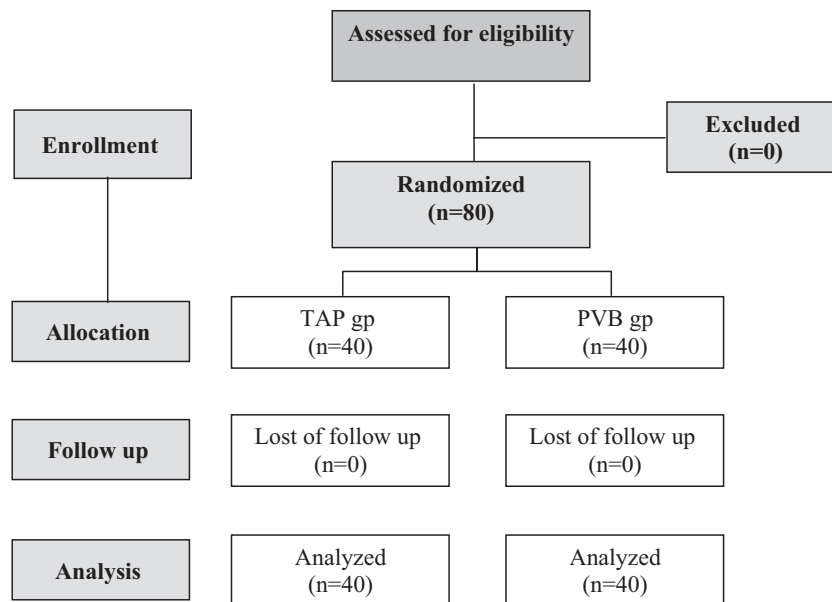
Patients were randomized preoperatively using a closed envelope system into two groups according to the type of analgesic technique given to the patient. Randomization was performed by a member of the research team

Group (I): 40 patients undergoing ultrasound guided unilateral transversus abdominis plane block with 20 ml levobupivacaine 0.25%.

Group (II): 40 patients undergoing ultrasound guided unilateral thoracic paravertebral block with 20 ml levobupivacaine 0.25%.

2.1. Exclusion criteria

Patients who had chest, heart, hepatic and, or renal impairment were excluded from the study and also if there is an absolute contraindication to regional anesthesia e.g. history of allergic reaction to local anesthetics, bleeding diathesis and infection at the site of block.



The aim of this study was to compare between ultrasound guided (TAP) block and ultrasound guided paravertebral block (PVB) and their effect as regards postoperative analgesia, the total analgesic requirements 24 h after abdominal surgeries, their impact on stress response and incidence of postoperative complications.

2.2. Technique of group (I): who receive ultrasound guided unilateral transversus abdominis plane block

The patient was in supine position and after induction of general anesthesia, and before surgical incision. The linear probe

Download English Version:

<https://daneshyari.com/en/article/8616896>

Download Persian Version:

<https://daneshyari.com/article/8616896>

[Daneshyari.com](https://daneshyari.com)