TRANSVERSUS ABDOMINIS PLANE BLOCK IN ABDOMINAL ANALGESIA

Essay

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By

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AAG	Alpha acid glycoprotein
ARNI	Anesthesia related nerve injury
ASIS	Anterior superior iliac spine
BVs	Blood vessels
Cm	Minimum effective concentration
CNS	Central nervous system
CT	Computerized tomography
CYP	Cytochrome P
dB	Decibel
DCIA	Deep circumflex iliac artery
DIEA	Deep inferior epigastric artery
EO	External oblique muscle
GABA	Gamma amino benzoic acid
ICU	Intensive care unit
IO	Internal oblique muscle
IV-PCA	Intravenous patient-controlled analgesia
LA	local anesthetic
LAs	Local anesthetic agents
LD	Latissmus dorsi muscle
PABA	Para amino benzoic acid
PCA	Patient-controlled analgesia
PNBF	Peripheral nerve blood flow
RA	Rectus abdominis muscle
TA	Transverses abdominis muscle
TAP	Transversus abdominis plane
TGC	Time gain compensation
TRI	Transient radicular irritation
US	Ultrasound

INTRODUCTION

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Regional anesthesia is a rapidly evolving sub-specialty area. Over recent years there has been growing interest in abdominal plane blocks, with promising data emerging on efficacy. The transversus abdominis plane (TAP) block allows sensory blockade of the lower abdominal wall via local anesthetic deposition above the transversus abdominis muscle. Abdominal field blocks and costo-iliac block have been used in anesthesia for surgery involving the anterior abdominal wall for several decades ***(Atkinson et al., 1987).***

TAP block technique was developed with a blind landmark technique, via the ‘lumbar triangle of Petit'. The clinical efficacy of the landmark technique and, more recently, ultrasound guided techniques have been investigated in several centres around the world ***(Hebbard et al., 2007).***

The principal of the TAP block is to deposit local anesthetic into the tissue plane between the internal oblique and the transversus abdominis muscles. The two methods used include a **blind technique**, based on surface anatomy landmarks,

and **an ultrasound guided** technique performed under direct vision. The block takes up to 30minutes to be effective so should be performed after induction and prior to surgery where possible ***(Rafi, 2001).***

TAP block can be used for any surgery involving the lower abdominal wall. This includes bowel surgery, cesarean section, appendicectomy, hernia repair, umbilical surgery and gynecological surgery. A single injection can achieve sensory block over a wide area of the abdominal wall. The block has been shown to be useful in upper abdominal surgery ***(McDonnell et al., 2007).***

TAP block is particularly useful for case when an epidural is contraindicated or refused. The block can be performed unilaterally (e.g. Appendicectomy), or bilaterally when the incision crosses the midline (e.g. Pfannenstiel incision). A single injection can be used, or a catheter inserted for several days of analgesic benefit. TAP block also has a role as rescue analgesia on awake postoperative patients who did not receive blocks prior to abdominal surgery ***(Hebbard et al., 2007)***.

Potential advantages include that it is a simple and effective analgesic technique, appropriate for surgical procedures where parietal pain is a significant component of postoperative pain. It can be performed when neuroaxial blocks are contraindicated. Potential drawbacks include that a bilateral block is required in most surgical procedures. In addition, the duration of the block may be limited to a few hours and could be too short to guarantee a pain free postoperative course.

Although the technique is apparently safe, it may be difficult, especially in obese patients because of failure to identify the landmark of the triangle of Petit resulting in an incorrect location of the needle ***(Farooq & Carey, 2008)***.

AIM OF THE WORK

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This study is going to give a highlight on TAP block as a new modality for analgesia in abdominal surgeries.