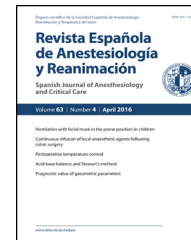




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ORIGINAL ARTICLE

Efficacy of ultrasound-guided transversus abdominis plane block in laparoscopic hysterectomy. Clinical trial[☆]



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KEYWORDS

Regional anaesthesia;
Transversus abdominal plane block;
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Postoperative pain;
Postoperative analgesia;
Opioid consumption

Abstract

Objectives: Transversus abdominis plane block is a regional anaesthesia technique that has proven to be effective for postoperative pain reduction in different abdominal surgical procedures. This study evaluated its efficacy on post laparoscopic hysterectomy pain intensity and analgesic consumption.

Methods: Randomized controlled trial which included 40 patients scheduled for laparoscopic hysterectomy, enrolled in 2 groups: transversus abdominis plane block+systemic analgesia (Group 1; n=20) versus systemic analgesia (Group 2; n=20). Opioid consumption within the first 24 postoperative hours, pain intensity scores at 60 min, 2, 8 and 24 h after surgery, adverse events related to systemic analgesia and time to hospital discharge were evaluated and registered.

Results: We found no differences between both groups in opioid consumption (10 mg vs. 7 mg; $p=0.2$) and pain scores (NVS) within the first 24 postoperative hours, at 60 min (3 vs. 5; $p=0.65$), 120 min (0 vs. 2; $p=0.15$), 8 and 24 h (0 vs. 0; $p>0.50$) for the last 2 points in time analysed. Adverse events related to medication and time to hospital discharge showed similar results.

Conclusion: Adding a transversus abdominis plane block technique to opioid PCA does not seem to improve postoperative pain management in laparoscopic hysterectomy. Patient preparation time and costs could be incremented and complications (although rare) related to the technique could appear.

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PALABRAS CLAVE

Anestesia regional;
Bloqueo del plano
transverso
abdominal;
Cirugía
laparoscópica;
Dolor postoperatorio;
Analgésia
postoperatoria;
Consumo de opioides

Ensayo clínico de eficacia del bloqueo del plano transverso del abdomen ecoguiado en la histerectomía laparoscópica

Resumen

Objetivos: El bloqueo del plano transverso abdominal es una técnica de anestesia regional que demostró ser efectiva en cirugía abdominal abierta y laparoscópica como parte de un esquema de tratamiento del dolor postoperatorio. La presente investigación evaluó su eficacia en cirugía de histerectomía total laparoscópica.

Materiales y métodos: El estudio fue diseñado como un ensayo clínico controlado, aleatorizado en 2 ramas: grupo protocolo bloqueo del plano transverso abdominal + analgesia intravenosa (Grupo 1; n = 20) versus grupo protocolo analgesia intravenosa (Grupo 2; n = 20), simple ciego que incluyó a 40 pacientes sometidas a una histerectomía total laparoscópica programada. Consumo de opioides en las primeras 24 h del postoperatorio (mg de morfina), intensidad del dolor por escala verbal numérica a los 60 min, 2, 8 y 24 h posteriores a la cirugía, efectos adversos relacionados con la medicación administrada, calidad del sueño en la primera noche poscirugía y tiempo hasta el alta hospitalaria fueron evaluados y registrados.

Resultados: No hubo diferencias estadísticamente significativas entre ambos grupos en cuanto al consumo de opioides (10 mg vs. 7 mg; p = 0,2) y en las escalas de dolor por EVN postoperatorias a los 60 min (3 vs. 5; p = 0,65), 120 min (0 vs. 2; p = 0,15), 8 y 24 h (0 vs. 0; p > 0,50), en estos 2 últimos puntos de tiempo evaluados. Tampoco se hallaron diferencias respecto a la incidencia de efectos adversos, calidad de sueño en la primera noche después de la cirugía ni en el tiempo hasta el alta hospitalaria.

Conclusiones: El bloqueo del plano transverso abdominal parece no aportar ningún beneficio adicional respecto a un plan de analgesia con opioides tipo PCA empleado en cirugía laparoscópica ginecológica, prolongando los tiempos de preparación del paciente, agregando un riesgo eventual (aunque bajo) de complicaciones e incrementando los costos.

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Introduction

Total laparoscopic hysterectomy is a common procedure in gynaecological practice. This approach is associated with a lower pain score compared to the conventional procedure. Even so, it generates multifactorial, moderate to severe postoperative pain that requires a multimodal treatment regimen capable of providing optimal analgesic efficacy while minimising the adverse effects of the drugs administered.¹⁻³

Somatic pain, derived from the innervation of the abdominal wall, is an important factor in the pathophysiology of postoperative pain in these procedures.⁴ Transverse abdominal plane (TAP) block is the regional anaesthesia technique that blocks the sensory innervation (T8-L1) of the anterolateral wall of the abdomen. The technique is safe and simple when performed with ultrasound guidance to precisely locate the plane.^{5,6}

The effectiveness of the block in providing postoperative analgesia has been tested in numerous studies and different populations and procedures, such as colonic resection,⁶ abdominal caesarean,⁷ retropubic prostatectomy,⁸ total abdominal hysterectomy,⁹ and laparoscopic cholecystectomy.¹⁰ Despite the promising results reported in these studies, in most cases the technique was performed blindly using widely differing anatomical approaches,^{6,7,11} and complications related to needle

position have been reported in subsequent studies.¹² The effectiveness of this technique has seldom been investigated in laparoscopic hysterectomy.¹³

This study was performed with the primary objective of analysing whether the use of ultrasound-guided TAP block associated with an intravenous (iv) analgesia protocol in patients undergoing total laparoscopic hysterectomy reduces opioid requirements and pain scale score in the first 24 postoperative hours.

Materials and methods

This is a controlled, single blind study in 40 patients scheduled for total laparoscopic hysterectomy. Patients were randomised to one of two groups: TAP block + iv analgesia vs. iv analgesia.

Inclusion criteria were: patients aged between 18 and 70 years; ASA I-II; BMI under 35; scheduled for total laparoscopic hysterectomy. Exclusion criteria were: known allergy to local anaesthetics; psychiatric/dementia disorders; infection of the abdominal wall; chronic analgesic use; chronic pain syndrome; diagnosed peripheral neuropathy; known allergy to analgesics or corticosteroids.

The study protocol was approved by the Committee for Education and Research and the Bioethics Committee of the Hospital Italiano in Buenos Aires. The study was performed

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