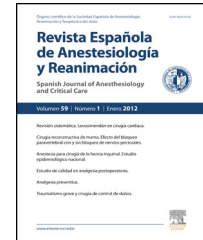




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ORIGINAL ARTICLE

Analgesia with interfascial continuous wound infiltration after laparoscopic colon surgery: A randomized clinical trial^{☆,☆☆}

S. Telletxea^{a,*}, J. Gonzalez^a, V. Portugal^d, R. Alvarez^a, U. Aguirre^{b,c}, A. Anton^{b,c}, A. Arizaga^a

^a Departamento de Anestesiología y Reanimación, Hospital de Galdakao – Usansolo, Bizkaia, Spain

^b Unidad de investigación, Hospital de Galdakao – Usansolo, Bizkaia, Spain

^c Red de Investigación en Servicios Sanitarios y enfermedades Crónicas (REDISSEC), Bizkaia, Spain

^d Departamento de Cirugía General, Hospital de Galdakao – Usansolo, Bizkaia, Spain

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KEYWORDS

Wound catheter;
Interfascial location;
NRS;
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consumption

Abstract

Objectives: For major laparoscopic surgery, as with open surgery, a multimodal analgesia plan can help to control postoperative pain. Placing a wound catheter intraoperatively following colon surgery could optimize the control of acute pain with less consumption of opioids and few adverse effects.

Methods: We conducted a prospective, randomized, study of patients scheduled to undergo laparoscopic colon surgery for cancer in Galdakao-Usansolo Hospital from January 2012 to January 2013.

Patients were recruited and randomly allocated to wound catheter placement plus standard postoperative analgesia or standard postoperative analgesia alone. A physician from the acute pain management unit monitored all patients for pain at multiple points over the first 48 h after surgery. The primary outcome variables were verbal numeric pain scale scores and amount of intravenous morphine used via patient controlled infusion.

Results: 92 patients were included in the study, 43 had a wound catheter implanted and 49 did not. Statistically significant differences in morphine consumption were observed between groups throughout the course of the treatment period. The mean total morphine consumption at the end of the study was 5.63 ± 5.02 mg among wound catheter patients and 21.86 ± 17.88 mg among control patients ($p = .0001$). Wound catheter patients had lower pain scale scores than

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* Corresponding author.

E-mail address: sorkunde.telletxeabenguria@osakidetza.net (S. Telletxea).

control patients throughout the observation period. No adverse effects associated with the wound catheter technique were observed. The wound catheter group showed lower hospital stays with statistically significant difference ($p = .02$).

Conclusions: In patients undergoing laparoscopic colon surgery, continuous infusion of local anaesthetics through interfascial wound catheters during the first 48 h after surgery reduced the level of perceived pain and also reduced parenteral morphine consumption with no associated adverse effects and lower hospital stays.

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PALABRAS CLAVE

Catéter incisional;
Localización
interfascial;
ENV;
Consumo de morfina

Analgesia basada en infusión continua de anestésico local a nivel interfascial tras cirugía de colon laparoscópico: Ensayo clínico

Resumen

Objetivos: Tanto para cirugía laparoscópica como para cirugía abierta la analgesia multimodal puede ayudar a controlar el dolor postoperatorio. La colocación de un catéter en la herida quirúrgica de manera intraoperatoria tras cirugía de colon podría optimizar el control del dolor con menor consumo de opiáceos y menos efectos secundarios.

Método: Realizamos un estudio prospectivo, aleatorizado de pacientes reclutados para cirugía de colon laparoscópica en el Hospital de Galdakao-Usansolo de enero de 2012 a enero de 2013.

Los pacientes fueron asignados aleatoriamente al grupo del catéter o al grupo de la analgesia postoperatoria estándar. Un miembro de la Unidad de dolor agudo monitorizó todos los pacientes a lo largo de 48 h tras la cirugía. Las variables principales analizadas fueron la escala numérica verbal y la cantidad de morfina intravenosa utilizada por cada paciente mediante PCA.

Resultados: Se incluyeron 92 pacientes en el estudio, 43 en el grupo con catéter y 49 en el estándar. Se observaron diferencias estadísticamente significativas en el consumo de morfina entre ambos grupos a lo largo de todo el periodo. La cantidad total de morfina consumida en el grupo del catéter fue de $5,63 \pm 5,02$ mg y de $21,86 \pm 17,88$ mg en el grupo de analgesia estándar ($p = 0,0001$). Los pacientes con catéter presentaban menores valores en la escala numérica verbal. No se encontraron efectos adversos asociados a la colocación del catéter y la administración de anestésico local. El grupo de catéter presentó menor estancia hospitalaria respecto al otro grupo ($p = 0,02$).

Conclusión: En los pacientes intervenidos de cirugía de colon laparoscópico una infusión continua de anestésico local a través de un catéter interfascial durante 48 h tras la cirugía reduce la percepción del dolor y el consumo de morfina intravenosa, disminuyendo la estancia hospitalaria.

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Introduction

In Spain, as in many other developed countries, colorectal cancer is the second most common type of malignant disease in terms of incidence and mortality, and thus represents a significant public health problem.^{1,2} The number of cases continues to rise at an average annual rate 2.6% in men, with no significant changes since 1975, and 0.8% in women.^{3,4}

The number of surgical interventions to treat colorectal cancer has significantly increased in recent years following the introduction of laparoscopic surgery. This technique does not require the large incisions that are associated with severe postoperative pain (POP), and which can harm respiratory function, trigger cardiovascular events and endocrine

and metabolic changes,⁵ and cause psychological problems such as anxiety, fear, and depression. This emotional distress can generate negative feedback that increases the perception of pain.⁵

Although POP is less severe after laparoscopic procedures than open surgery, it still occurs, especially in the immediate postoperative period. Post-laparoscopy pain is due to 3 main factors: (1) residual CO₂, which produces carbonic acid that irritates the peritoneum and gives rise to abdominal pain and referred shoulder pain⁶; (2) insufflation pressure, which causes pain by stretching muscles and other tissues;⁶ and (3) pain due to visceral damage.⁶

Analgesia following major laparoscopic surgery is based on a multimodal approach, and usually includes nonsteroidal anti-inflammatory drugs (NSAIDs) supplemented with

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