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Comparison TAP Bloc + Pararectal with ESP bloc for laparoscopic gallbladder surgery

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Published 09/04/2024

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Categories: Pain Management
Keywords: laparoscopic gallbladder surgery, pararectal with esp bloc, tap bloc

How to cite this abstract
Di Ieso T (September 04, 2024) Comparison TAP Bloc + Pararectal with ESP bloc for laparoscopic gallbladder surgery. Cureus 16(9): a1311

Abstract

Introduction

Laparoscopic gallbladder surgery has now become a consolidated technique that allows the performance of the surgery in day surgery.The main problem to be addressed has always been related to the management of post-operative pain. Following the introduction of the ultrasound in anesthesia, wall blocks began to be performed for post-operative analgesia with medium-long duration. For laparoscopic cholecystectomy, in particular, the use of the TAP bloc has been introduced with various methods to which to flank the pararectal block to cover the pain of the sobraombical breach. The introduction, then, of the ESP bloc opened up new horizons of comparison for its ease of execution and security.

Materials and methods

In the clinic where I am now responsible for the anesthesia service, until 2022 about fifteen - twenty gallbladders were operated per year with traditional methods for the management of post-operative pain (continuous infusion and/or intravenous and/or orous infusion drugs). Since March 2023 we have increased the number of cholecystectomies performed to about sixty to eighty gallbladders per year thanks also to the post-operative management of pain with wall blocks performed intraoperatively. We divided the patients into two groups named TAP + Para and ESP, male and female in equal distribution, aged 25 to 80 years, and evaluated the pain on the NRS and VAS scale upon awakening, one hour, six hours and twelve hours after surgery. The differences were studied with Fisher's test.

Results

Pain control was similar in both groups with not statistically significant differences. The difficulty of executing the blocks was similar with a slightly higher learning curve for the ESP. The amount of anesthetic was, clearly, lower for ESP.
All patients were undergoing general anaesthesia with induction by Propofol and Cis-atracurio. Anaesthesia was maintained with Oxygen, Nitrogen Oxide, Sevofluorane and Remifentanil infusion. The infusion of Remifentanil started at 0.25 mcg/kg/min and then reduced to 0.075 mcg/kg/min after intubation.
During the surgery, 100 mg of Tramadol and 30 mg of Ketorolac were all applied.
Upon awakening, all patients were given 1 gram of paracetamol IV and Intrastigmine + Atropine for any curare residues.
Upon awakening, NRS=2 with VAS=2 was observed.
One hour after waking up, NRS=4 with VAS=4.
Six hours after waking up, NRS=1 with VAS =2.
Twenty-four hours after waking up, NRS=0 with VAS=0.
A new infusion of Paracetamol was rarely given twelve hours after waking up.
The choice of the block type was done randomly.

Conclusions

The type of block performed does not result in better analgesia. However, ESP in T12-L1 also partially covers the pain from frenic nerve irritation.
The patient's compliance, of course, is much higher for TAP bloc + Pararectal because the method is performed after the induction of general anesthesia.
The learning curve for ESP is higher than TAP + Pararectal.
In both groups, six hours after the surgery, patients were standing and walking around the ward.
It can be concluded that, unless there are adverse surgical events or surgical contraindications, discharge could be made within twenty-four hours.

Discharge in the day, even if possible because the pain is almost absent, is not advisable for the possible resumption of pain, albeit mild, during the night.