

Bloc des érecteurs du rachis - bloc paravertébral

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Effect of the erector spinae block on postoperative fatigue afterscheduled laparoscopic cholecystectomy

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Position du problème et objectif(s) de l'étude:

Laparoscopic cholecystectomy is a frequent, minimally invasive surgery. However, it causes moderate to severe postoperative fatigue (POF). The erector spinae plane block (ESP) is a new analgesic technique targeting the ventral, dorsal and communicating branches of the spinal nerves. Few studies have evaluated its effect on POF and analgesic efficacy in abdominal surgery.

The aim of this study was to compare the POF with or without unilateral ESP after laparoscopic cholecystectomy.

Matériel et méthodes:

We conducted a comparative, multicentric, randomized, single-blind trial after approval by the local ethiccommittee (13/2022/CLPP). We included 110 adults, ASA I or II, scheduled for laparoscopic cholecystectomy for non-complicated vesicular lithiasis. All patients had a pre-anesthetic consultation during which we explained the protocol and obtained a signed consent form. We assessed preoperative fatigue using "Identity-Consequence Fatigue Scale" and pain with DN4 scale. In the operating room, patients were randomly allocated into two groups: Group E and Group C. The patients in group E received a unilateral ESP at the sixth thoracic vertebra under ultrasound guidance, before general anesthesia. The group C was the control group where no procedure was performed. We administrated standard anesthesia and analgesia in both groups. The main outcome was the POF assessed by the 31-Items-ICSF the 3rd day after surgery. Secondary outcomes were: Pain and opioid requirement.

Résultats & Discussion:

A total of 102 patients completed the study: 50 in group E, 52 in group C. The two groups were comparable in terms of demographic, anthropometric criteria and medical history. They were also similar regarding DN4 scale, and preoperative fatigue. The surgical and anesthetic data were comparable between the two groups. Postoperative ICSF was similar in both groups: 39.62 (Min:9.98; Max:49.6) in group E vs 40.06 (Min:32.36; Max:44.96) in group C with $p=0.243$. We did not notice any significant difference in VRS nor in intraoperative opioid requirement between the two groups.

Table 1: Comparison of preoperative fatigue, intraoperative consumption of fentanyl and postoperative fatigue in both groups

| | Group E (n=50) | Groupe C (n=52) | p |
|-------------------------|-------------------|--------------------|-------|
| Preoperative fatigue | 43.05(34.88;57.3) | 45.64(37.08;55.78) | 0.693 |
| Consumption of fentanyl | 200 (150;200) | 200 (150;200) | 0.541 |
| POF by ICFS | 39.62 (9.98;49.6) | 40.06(32.36;44.96) | 0.243 |

Conclusion:

We conducted a comparative, multicentric, randomized, single-blind trial including 110 adults scheduled for laparoscopic cholecystectomy. Patients were randomly allocated into two groups: Group E with ESP block and control group (Group C).

In our study, both of groups were similar concerning the main outcome. Indeed, unilateral ESP was not effective on fatigue, as an entity, assessed 3 days after cholecystectomy.

The perioperative consumption of fentanyl was the same (short surgery).

No complications inherent to the realization of this block were noted. No side effects of ESP block were

reported.

Further studies were required to assess the effect of erector spinae block on postoperative fatigue. A larger sample size, a complex surgery and different volumes and concentrations of local anaesthetics would seem to be of interest.

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