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CLINICAL INFORMATION

Type II Quadratus Lumborum block for a sub-total gastrectomy in a septic patient

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Abstract
Introduction and objectives: Quadratus Lumborum block was recently described and has already shown good results as an analgesic technique in abdominal surgeries, having the potential to significantly reduce opioids consumption and be a valid alternative to epidural catheter. We performed a type II Quadratus Lumborum block for analgesia in a septic patient having a sub-total gastrectomy.
Case report: An 80 year-old, ASA III, male patient, weighting 50 kg, with a history of arterial hypertension and hypercholesterolemia, diagnosed with sepsis due to purulent peritonitis was submitted to an open laparotomy. Bilateral ultrasound-guided type II Quadratus Lumborum block was performed before surgery, using 10 mL of levobupivacaine 0.25% and 5 mL of mepivacaine 1%, per side. Pain relief was achieved 5 min after injection and the patient referred no pain in the immediate postoperative period.
Discussion: Type II Quadratus Lumborum block may be considered a valid alternative for postoperative analgesia in a septic patient undergoing major abdominal surgery with some relative contraindications to epidural catheter placement. It allowed us to achieve excellent pain management avoiding opioids usage. However, more reports are still needed to properly access its usefulness.

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PALAVRAS-CHAVE
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Bloqueio do quadrado lombar tipo II para uma gastrectomia subtotal em um paciente séptico

Resumo
Introdução e objetivo: O bloqueio do quadrado lombar (QL) foi descrito recentemente e já mostrou bons resultados como técnica analgésica em cirurgias abdominais, com potencial para reduzir significativamente o consumo de opiáceos e ser uma alternativa válida ao cateter peridural. Realizamos um bloqueio do QL tipo II para analgesia em um paciente séptico para gastrectomia subtotal.
Relato de caso: Paciente do sexo masculino, 80 anos de idade, ASA III, 50 kg, com história de hipertensão arterial e hipercolesterolemia, diagnosticado com sépsis devido a peritonite purulenta foi submetido a uma laparotomia aberta. O bloqueio bilateral do QL tipo II guiado por ultrassom foi realizado antes da cirurgia com 10 mL de levobupivacaína a 0,25% e 5 mL de mepivacaína a 1%, por lado. O alívio da dor foi obtido em 5 min após a injeção, e o paciente não referiu dor no pós-operatório imediato.
Discussão: O bloqueio do quadrado lombar (QL) tipo II pode ser considerado uma alternativa válida para analgesia no pós-operatório em um paciente séptico submetido a cirurgia abdominal de grande porte, com algumas contraindicações relativas à colocação do cateter peridural. Permitiu-nos obter um excelente manejo da dor evitando o uso de opiáceos. Contudo, mais relatos ainda são necessários para avaliar corretamente a sua utilidade.

Introduction and objectives

Quadratus Lumborum block was initially described by R. Blanco with a postero-lateral abdominal injection of local anesthetic (LA) in the antero-lateral aspect of the QL muscle – type I QL block.[1] Later, J. Børglum refined the QL block technique with the posterior transmuscular approach using the Erector Spinae (ES), QL, Psoas Major (PM) and transverse process of lumbar (L) 4 as references – Shamrock approach – and injecting the LA in the anterior aspect of the QL.[2] More recently, R. Blanco described a QL block injecting the LA in the posterior aspect of the QL muscle, known as the type II QL block,[3] which may be safer to perform because the LA is injected in a more superficial plane, therefore reducing the risk of lumbar plexus injuries and intra-abdominal complications.

Both types of QL block have been recently described for chronic pain following abdominal hernia repair[4] and for postoperative analgesia following abdominal surgery. Visoiu M. et al. and Kadam V. R. refer complete pain relief in the distribution area from Thoracic (Th) 6 to L1 dermatomes.[5,6] Because of its similarities with transversus abdominis plane (TAP) block, in surgeries with peritoneal involvement it may reduce morphine consumption to less than 30%.[7] It has been shown that the LA spreads between Th4 and L1 after a type I QL block, thus having the potential to cover the entire sensitive innervation of the abdominal wall and also block visceral afferent pathways to the medulla.[8]

Epidural catheters have been widely used for intra and postoperative analgesia in major abdominal surgeries but their placement may bring some major complications such as postdural puncture headache, direct neural injury, epidural hematomas, meningitis and epidural abcess.[9] Many absolute and relative contraindications are well established and despite still being advocated for major abdominal surgeries, epidural catheters have been losing some pace due to great advances in peripheral nerve blocks.

We present a case report involving a septic patient having a sub-total gastrectomy in whom we performed a type II QL block for analgesia.

Case report

We performed a bilateral ultrasound (US) guided type II QL block using the Shamrock approach (Fig. 1) in an 80 year-old, ASA III, male patient, weighting 50 kg, with a long known history of arterial hypertension and hypercholesterolemia, presenting with intense abdominal pain, anorexia and obstipation with 48 h of evolution, with tachycardia and hypotension and lactates 4.3 mmoL/L. This patient was diagnosed with a purulent peritonitis due to a perforated gastric carcinoma after observation in the Emergency Department. Blood tests showed a platelet count of 86,000 $\times$ 10^3/uL, prolonged prothombin time (INR = 1.41) and an acute elevation of both blood urea nitrogen and serum creatinine (96 mg/dL and 2.0 mg/dL, respectively); this septic scenario created additional risks for epidural catheterization. After accessing the risks and alternatives to the epidural catheter, we decided for the QL block as the primary analgesic technique.

The patient was monitored according to the American Society of Anesthesiology recommendations. Before the procedure, he received 0.05 mg of fentanil and 2 g of cefoxitine. The patient was placed in lateral decubitus with the side being blocked facing upwards. The bilateral US-guided QL block was performed with 10 mL of levobupivacaine 0.25% and 5 mL of mepivacaine 1%, per side, using a 21 G 50 mm needle (echoplex+, Vigon®), with a 2–5 MHz curved array

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