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CLINICAL INFORMATION

Superior gluteal nerve: a new block on the block?

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KEYWORDS

Superior gluteal nerve;
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Abstract

Background and objectives: The superior gluteal nerve is responsible for innervating the gluteus medius, gluteus minimus and tensor fascia latae muscles, all of which can be injured during surgical procedures. We describe an ultrasound-guided approach to block the superior gluteal nerve which allowed us to provide efficient analgesia and anesthesia for two orthopedic procedures, in a patient who had significant risk factors for neuraxial techniques and deep peripheral nerve blocks.

Clinical report: An 84-year-old female whose regular use of clopidogrel contraindicated neuraxial techniques or deep peripheral nerve blocks presented for urgent bipolar hemiarthroplasty in our hospital. Taking into consideration the surgical approach chosen by the orthopedic team, we set to use a combination of general anesthesia and superficial peripheral nerve blocks (femoral, lateral cutaneous of thigh and superior gluteal nerve) for the procedure. A month and a half post-discharge the patient was re-admitted for debriding and correction of suture dehiscence; we performed the same blocks and light sedation. She remained comfortable in both cases, and reported no pain in the post-operative period.

Conclusions: Deep understanding of anatomy and innervation empowers anaesthesiologists to solve potentially complex cases with safer, albeit creative, approaches. The relevance of this block in this case arises from its innervation of the gluteus medius muscle and posterolateral portion of the hip joint. To the best of our knowledge, this is the first report of an ultrasound-guided superior gluteal nerve block with an analgesic and anesthetic goal, which was successfully achieved.

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PALAVRAS-CHAVE

Nervo glúteo superior;
Ultrassom;
Dor;
Anestesia regional

Nervo glúteo superior: um novo bloqueio no 'pedaço'?

Resumo

Justificativa e objetivos: O nervo glúteo superior é responsável pela inervação dos músculos glúteo médio, glúteo mínimo e tensor da fáscia lata, podendo todos ser lesados durante procedimentos cirúrgicos. Descrevemos uma abordagem guiada por ultrassom para bloqueio do nervo glúteo superior, o que nos permitiu fornecer analgesia e anestesia eficientes para dois procedimentos ortopédicos a uma paciente que apresentava fatores de risco significativos para técnicas neuraxiais e bloqueios profundos de nervos periféricos.

Relato de caso: Paciente do sexo feminino, 84 anos de idade, cujo uso regular de clopidogrel contraindicava técnicas neuraxiais ou bloqueios profundos de nervos periféricos, apresentou-se para hemiartroplastia bipolar urgente em nosso hospital. Levando em consideração a abordagem cirúrgica escolhida pela equipe de ortopedia, estabelecemos o uso de uma combinação de anestesia geral e bloqueios superficiais de nervos periféricos (femoral, cutâneo lateral da coxa e nervo glúteo superior) para o procedimento. Um mês e meio após a alta, a paciente foi readmitida para desbridamento e correção da deiscência de sutura; realizamos os mesmos bloqueios e sedação leve. A paciente permaneceu confortável em ambos os casos, sem queixa de dor no período pós-operatório.

Conclusões: A compreensão profunda da anatomia e da inervação capacita os anesthesiologistas a resolver casos potencialmente complexos com abordagens mais seguras, embora criativas. A relevância desse bloqueio neste caso resulta da sua inervação do músculo glúteo médio e da porção posterolateral da articulação do quadril. De acordo com nossa pesquisa, este é o primeiro relato de um bloqueio do nervo glúteo superior guiado por ultrassom com objetivo analgésico e anestésico que foi obtido com sucesso.

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Background and objectives

The superior gluteal nerve (SGN) is responsible for innervating the gluteus medius, gluteus minimus and tensor fascia latae muscles, all of which can be injured during surgical procedures. The individual block of this nerve is made redundant by the use of neuraxial techniques or deep peripheral nerve blocks (PNB) such as the sacral plexus block; however, not all patients can be subjected to these techniques. We describe an ultrasound-guided approach to block the SGN, which allowed us to provide efficient analgesia and anesthesia for two orthopedic procedures in a patient who had significant risk factors for neuraxial techniques and deep PNBs.

Case report

We present the case of a 60 kg 84-year-old female who presented for urgent bipolar hemiarthroplasty due to left femur hip fracture after falling in our hospital's medicine ward, where she had been undergoing antibiotherapy for 7 days to treat a community-acquired pneumonia.

She had a known history of atrial fibrillation with controlled ventricular response, myocardial infarction in 2015 (for which she underwent percutaneous coronary intervention), NYHA class II heart failure, controlled arterial hypertension, dyslipidemia, depression, and had previously undergone mitral valvuloplasty in 1988 due to

rheumatic fever. She regularly took acenocumarol, clopidogrel, digoxin, carvedilol, ramipril, furosemide, rosuvastatin and sertraline, and had no history of tobacco or alcohol abuse or known allergies. She was previously independent for her daily activities.

There were no relevant findings on her pre-operative exams, aside from and discrete lung bilateral infiltrates on her chest X-ray. Her hemoglobin level was 13.9 g/dL, platelet count 335.000 per μ L, and coagulation status had been promptly corrected with vitamin K. A transthoracic echocardiogram performed after her infarction episode showed moderate mitral stenosis and mild mitral regurgitation with severe left atrial dilation, borderline criteria for pulmonary hypertension, moderate tricuspid regurgitation, preserved left ventricle ejection fraction and lowered right ventricle function.

After discussing the risks and surgical plan with the orthopedic team and patient, we obtained her consent. Seeing as neuraxial techniques or deep PNBs were contraindicated by her regular usage of clopidogrel, our anesthetic plan consisted of a combination of superficial peripheral nerve blocks and general anesthesia. The patient was monitored according to American Society of Anesthesiology monitoring standards. Her vitals were BP of 150/92 mmHg and HR of 88 bpm. We performed a femoral and lateral cutaneous nerve of thigh block using a 21G 80mm needle (Stimuplex® Ultra 22 gauge, B. Braun, Melsungen, Germany) under ultrasound guidance (Venue 40 Ultrasound, GE Healthcare, with a 5–13 MHz wide-band linear array

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