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CASE REPORT

Meralgia paresthetica due to laparoscopic myomectomy. Case report *

Meralgia parestésica secundária a laparoscopia cirúrgica para miomectomia. Relato de caso

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SUMMARY

BACKGROUND AND OBJECTIVES: Meralgia paresthetica is a disesthetic and / or anesthetic syndrome in the distribution of the lateral femoral cutaneous nerve. It is a compressive or traumatic mononeuropathy, characterized by burning pain and / or discomfort in the anterolateral thigh, without motor or muscle strength changes, with preserved reflexes. It has been described after several surgical procedures, including laparoscopies. This study aimed at reporting a case of meralgia paresthetica after gynecological laparoscopy and its treatment, as well as at reviewing relevant literature.

CASE REPORT: Female patient, 52 yeas old, submitted to laparoscopic miomectomy who presented in the immediate postoperative period anesthesia in left anterolateral thigh. Seven days later she reported paroxysmal and disesthetic pain and pain at touch in the same topography. She was medicated with analgesics and anti-inflammatory drugs without improvement. After evaluation in the pain outpatient setting, clinical and electroneuromyographic diagnosis of meralgia paresthetica was established and treatment was started with gabapentin. There has been significant symptoms improvement so that 90 days later she presented just occasional paroxysmal pain.

CONCLUSION: Meralgia paresthetica is a possible complication of laparoscopic miomectomy, the diagnosis of which is seldom considered. Conservative treatment with α2-δ calcium channel blocker anticonvulsants was effective for this patient.

Keywords: Anticonvulsant, Neuropathy, Postoperative pain.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Meralgia parestésica é uma síndrome disestésica e/ou de anestesia na distribuição do nervo cutâneo femoral lateral. É uma mononeuropatia compressiva ou traumática, caracterizada por dor em queimação e/ou desconforto na face anterolateral da coxa, sem alterações motoras ou de força muscular, com reflexos preservados. Tem sido descrita após diversos procedimentos cirúrgicos, inclusive laparoscópicos. O objetivo deste estudo foi relatar um caso de meralgia parestésica após laparoscopia ginecológica e seu tratamento, assim como rever a literatura relacionada.

RELATO DO CASO: Paciente do sexo feminino, 52 anos, submetida à miomectomia laparoscópica, apresentou no pós-operatório imediato, anestesia em face anterolateral da coxa esquerda. Após sete dias, relatava dor paroxística, disestésica e dor ao toque na mesma topografia. Foi medicada com analgésicos e anti-inflamatórios, sem melhora. Após avaliação no ambulatório de dor, foi realizado diagnóstico clínico e eletroneuromiográfico de meralgia parestésica e iniciado tratamento com gabapentina. Houve melhora substancial da sintomatologia, de forma que, após 90 dias, a paciente apresentava apenas dor paroxística ocasional.

CONCLUSÃO: A meralgia parestésica é uma complicação possível da miomectomia laparoscópica, cujo

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diagnóstico raramente é considerado. O tratamento conservador com anticonvulsivantes bloqueadores do canal de cálcio α2-δ foi efetivo para essa paciente.
Descritores: Anticonvulsivante, Dor pós-operatória, Neuropatia.

INTRODUCTION

Lateral femoral cutaneous nerve is a collateral sensitive branch of the lumbar plexus, responsible for sensitivity of the anterolateral thigh[1]. It is formed as from L_2 and L_3 spinal roots and, in its pathway, has relation with the posterolateral portion of greater psoas. It runs below the inguinal ligament toward the thigh, medially to the antero-superior iliac crest[1,2]. Due to its pelvic and extrapelvic relations, this nerve may be injured by tumors, inflammatory pelvic processes, psoas muscle hematomas or inguinal traumas[3,4].

Meralgia paresthetica (meros: thigh, algos: pain) is a mononeuropathy resulting from lateral femoral cutaneous nerve trauma or compression, characterized by pain and / or paresthesia in the anterolateral thigh[4-6]. There is no lumbar pain, motor or muscle strength changes and reflexes are preserved[7].

This nosological entity may appear after laparoscopic procedures due to anatomic variations in nerve pathway, mobilization of surgical instruments, extensive retroperitoneal resection or perioperative patient positioning[8-10].

This study aimed at describing a case of meralgia paresthetica in patient submitted to laparoscopic myomectomy, its treatment, in addition to reviewing relevant literature on the subject

CASE REPORT

Female patient, 52 years old, submitted to laparoscopic myomectomy, has referred anesthesia on left anterolateral thigh in the immediate postoperative period. Seven days after surgery she referred paroxysmal dysesthetic pain and pain at touch with intensity 5 to 8 according to the numerical scale from 0 to 10. Pain was continuous with exacerbation periods. Patient was medicated with analgesics and anti-inflammatory drugs without symptoms improvement.

She came for the first visit to the pain outpatient setting 15 days after surgery, with a suffering face and holding her dresses to prevent pain deflagration. Tactile and thermal alodinia was detected during physical evaluation. Pain was evaluated with the neuropathic pain questionnaire (DN4), resulting in score equal to 7. When interpreting this questionnaire, pain is considered neuropathic if score is higher or equal to 4, 82.9% sensitivity, 89.9% specificity and 86% predictive value[11]. To clarify the diagnosis, lower limbs electroneuromyography was requested which has detected low amplitude sensory potential of left lateral femoral cutaneous nerve as compared to contralateral nerve.

Faced to these findings, clinical and electroneuromyographic diagnosis was meralgia paresthetica. The surgeon informed further trocar manipulation on the left side. Treatment was started with gabapentin (600 mg/day) and re-evaluation was scheduled for dose adjustment. Seven days after using gabapentin in the referred dose, there has been dysesthesia improvement with 80% decrease of paroxysm and 50% decrease of allodynia. Gabapentin dose was not increased because patient complained of dizziness.

After continuous use for 30 days of 600 mg/day gabapentin, patient remained without dysesthesia and presented occasional paroxysmal pain and mild allodynia. After 90 days of treatment, patient's complaint was limited to occasional paroxysmal pain, being the treatment maintained for more 90 days with monthly re-evaluations.

DISCUSSION

Lateral femoral cutaneous nerve is more frequently made up of fibers mostly originated from L_2 root[1]. This nerve travels through the retroperitoneum to the psoas muscle fascia and enters the groin after going below the inguinal ligament, medially to antero-superior iliac spine[1] (Figure 1). This pathway may vary in its relation with antero-posterior iliac spine and its exit point[2,5]. In most cases, lateral femoral cutaneous nerve may be located at a distance of up to 2 cm from the antero-superior iliac spine in the horizontal plane and between 2 to 3 cm from it in the vertical plane[1]. However, some authors report the location of this nerve between inguinal ligament fibers above the iliac spine or even lateral to it[12,13].

These anatomic variations may provide a higher probability of nervous injury by instruments used during gynecological laparoscopic surgeries, considering the proximity of portals to iliac spines in such procedures.

Taking into consideration its anatomic characteristics, this nerve is more vulnerable and susceptible to compression and entrapment at its exit point[5]. Lateral cutaneous femoral nerve compression at any point of its pathway produces a typical syndrome called meralgia paresthetica or Bernhardt-Roth syndrome, which is a

rare sensory mononeuropathy (4.3 cases per 10 thousand people/year). It is characterized by pain, paresthesia or sensory impairment in the distribution of the lateral femoral cutaneous nerve[14]. Patients in general complain of burning, creeps or pinpricking in anterolateral thigh, in the absence of low back pain, weakness or reflex changes[15]. Symptoms are in general unilateral although 20% of patients present with bilateral symptoms[15]. In our case, symptoms were unilateral, in line with most cases reported in the literature.

Most meralgia paresthetica cases are idiopathic and are frequent in obese or diabetic patients, or in those using tight trousers or underwear. It may also be precipitated by gestation[15]. However, meralgia paresthetica may also be iatrogenic, having been described after total hip replacement, spinal surgery, kidney transplantation, liver transplantation, percutaneous heart catheterization, C-section and laparoscopic procedures such as myomectomy, inguinal herniorrhaphy, cholecystectomy and appendectomy[5,8,9,10,15-18]. Our case may be considered iatrogenic since it was caused by surgical manipulation or positioning during laparoscopic myomectomy.

With regard to laparoscopic gynecological surgery technique, most surgeons start the procedure with an intra or infraumbilical incision[19]. Three accessory portals are used for most surgeries: two lateral and one suprapubic[19]. Lateral portals should be located at the iliac crest level, laterally to rectus abdominis muscles and inferiorly to lower epigastric vessels (Figure 2)[19]. The proximity of lateral portals with lateral femoral cutaneous nerve pathway, especially in the presence of anatomic variations, alerts for the possibility of its compression or nervous injury.

In our case, the patient presented typical meralgia paresthetica symptoms and causal nexus with laparoscopic procedure (myomectomy). To confirm the hypothesis, the surgeon has reported that due to surgical difficulty and to the fact that the myoma was located on the left uterine wall, there has been the need for more mobilization of the left lateral trocar. In addition, it was also reported that patient remained in the supine position with abducted lower limbs throughout the procedure. Prolonged permanence of lower limbs in exaggerated abduction may cause lateral femoral cutaneous nerve stretch, triggering meralgia paresthetica. Taking into consideration the precocity of symptoms, which started in the immediate postoperative period, the possibility of entrapment by scar tissue was remote.

A study has described a similar case where patient de-

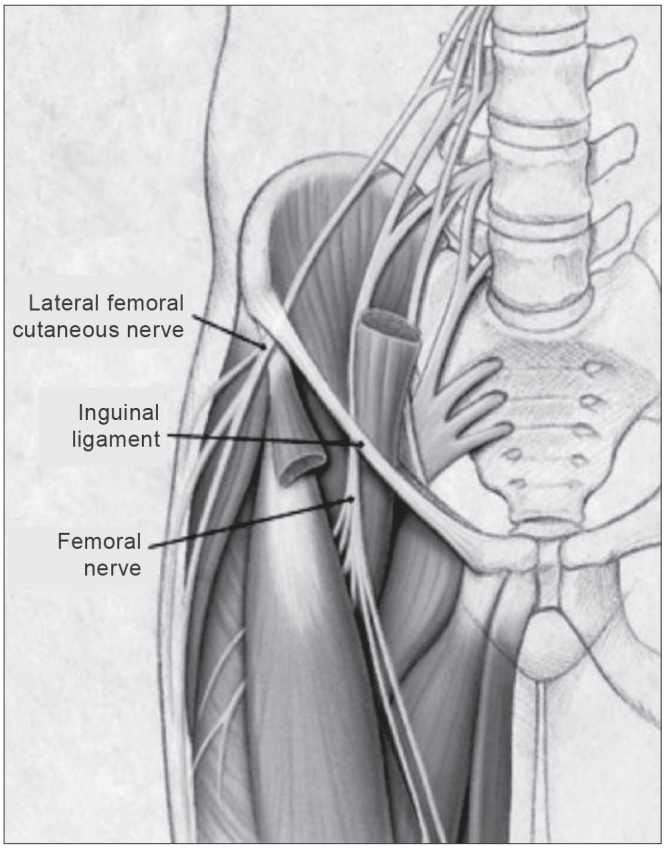

Figure 1 – Origin, pathway and anatomic relations of the lateral femoral cutaneous nerve. (Mattera D, Matínez F, Soria V, et al. Surgical anatomy of the lateral femoral cutaneous nerve in the groin region. Eur J Anat 2008;12(1):33-7).

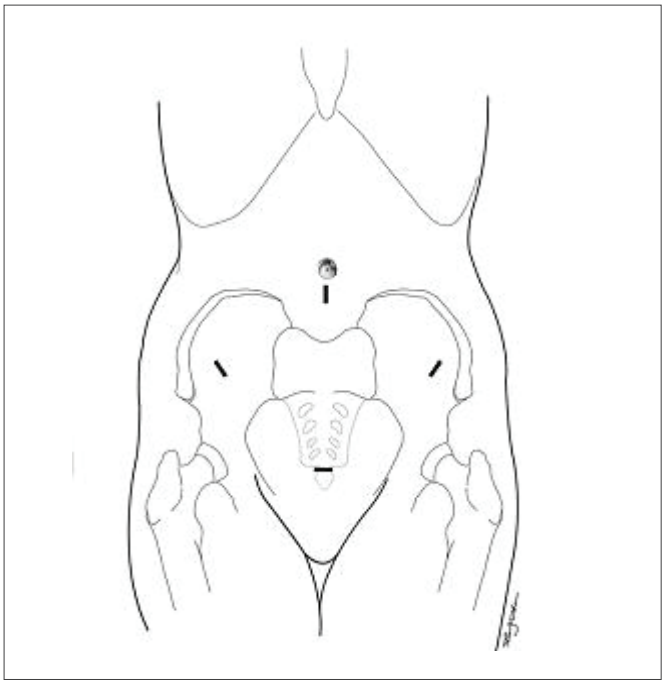

Figure 2 – Portals location in gynecologic laparoscopy (DeSimone CP, Ueland FR. Gynecologic Laparoscopy. Surg Clin N Am 2008;88(2):319-41)[19].

veloped paresthesia in the left superior thigh after being submitted to laparoscopic myomectomy[10]. In this case, nervous injury was attributed to extensive dissection of the left retroperitoneal space. Patient was observed for four months when there has been spontaneous resolution of symptoms.

Lateral femoral cutaneous nerve entrapment as source of pain in anterolateral thigh has been recognized for more than one century. In spite of this historical recognition, its diagnosis and treatment are late, since its diagnosis is seldom considered[20]. It is important to promptly identify meralgia paresthetica due to the need for early treatment to prevent the development of chronic neuropathic pain. In our case, there has been diagnostic difficulty on part of the surgical team and diagnostic delay due to the non-coincidence between pain and incision sites. However, pain is justified by the relation between the anatomic location of the lateral femoral cutaneous nerve and the introduction and / or mobilization of trocars, in addition to being a potential consequence of the prolonged positioning needed for the procedure.

Neuropathic pain treatment is a challenge since many patients do not have adequate symptoms relief. This treatment difficulty may be result of the heterogeneity of triggering mechanisms[21].

Approximately 85% of meralgia paresthetica patients present total remission of symptoms after four to six months of conservative treatment[15]. In the line of conservative treatment, non-steroid anti-inflammatory drugs, tricyclic antidepressants and anticonvulsants may be effective to minimize symptoms[15]. A promising option to treat peripheral neuropathies is the group of anticonvulsants α2-δ calcium channel ligands, which include gabapentin and pregabalin. These drugs bind to calcium channels in the central terminals of primary afferent nociceptors, generating decreased neurotransmitters release. Major adverse effects are sedation, dizziness and peripheral edema[21]. In our case, patient had significant improvement after treatment with 600 mg/day gabapentin and, as adverse effect, she presented just dizziness, reason why progressive dose increase was not adopted.

CONCLUSION

Meralgia paresthetica is a possible complication of laparoscopic myomectomy, the diagnosis of which is seldom considered. Conservative treatment with α2-δ calcium channel blocker anticonvulsants was effective for this patient, with minimum and tolerable side effects.

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