

Case Report


Two Interesting Cases of Meralgia Paraesthetica

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Meralgia paraesthetica (MP) is a condition originally described by Bernhardt in 1878 and was eventually named by Roth in 1895. It is caused by compression of the lateral femoral cutaneous nerve (LFCN) resulting in varying types of discomfort. Severity of the symptoms can range from mildly uncomfortable to painfully disabling. In this article we discuss 2 patients with a LFCN injury occurring as a result of laparoscopic ventral rectopexy (LVR). The first patient is a 46-year-old female who reported pain and dysesthesia in the left groin and the anterolateral thigh, 2 days post LCR. A conservative approach was taken and at the 6-month follow-up the symptoms had resolved. The second patient is a 51-year-old female who reported increased sensitivity to bed sheets over the anterolateral aspect of her left thigh, in the immediate post-operative period following LVR. She was similarly managed conservatively but her symptoms persisted. The LFCN arises from the dorsal branches of the second and third lumbar roots. It crosses the iliacus muscle deep to the fascia. Injury or entrapment to surrounding neural structures including the LFCN, commonly results following common laparoscopic procedures. In some cases, additional surgical intervention is required for successful management of the symptoms. In our patients, the MP syndrome was clearly related to the operation because symptoms appeared in the immediate post-operative period and were not present beforehand. LVR is a relatively new and evolving procedure with few reports of associated peri-operative complications.

Key words: Meralgia paraesthetica, laparoscopy, rectopexy, lateral femoral cutaneous nerve

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Meralgia paraesthetica (MP) is a condition originally described by Bernhardt in 1878 and was eventually named by Roth in 1895 (1). It is caused by compression of the lateral femoral cutaneous nerve (LFCN), resulting in varying types of discomfort, ranging from paraesthesia, pruritus, burning, and pain, along the anterolateral aspect of the thigh. Severity of the symptoms can range from mildly uncomfortable to painfully disabling (2).

There are many reported causes of MP, which include toxic injury secondary to lead poisoning, the sequela of obesity, pregnancy, chronic alcoholism, diabetes, surgery, and seatbelt injuries. The majority of pre-laparoscopic causes of MP result from direct mechanical compression resulting in nerve impingement;

the use of operating frames is one such reported example (3-6).

Since the 1970s, with the advent of laparoscopic surgery, there has been an increased incidence of MP, with many cases being reported following laparoscopic appendectomy, cholecystectomy, hysterectomy, and herniorrhaphy (1-5,7-9). This is presumably because of the placement of trocars and staples in the inguinal region (1). Other reported cases are related to damage of the intra-abdominal component of the nerve such as secondary to an iliacus haematoma or a retroperitoneal sarcoma (8).

In this article we discuss 2 patients with LFCN injury occurring as a result of laparoscopic ventral rectopexy (LVR). In both cases, the port sites are illustrated in Fig. 1.

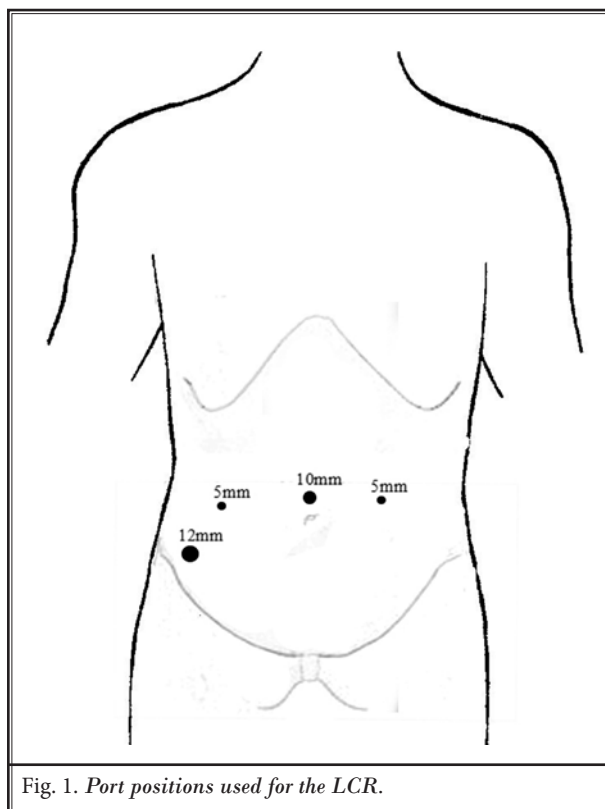


Fig. 1. Port positions used for the LCR.

Case Reports

Patient 1. A 46-year-old female patient reported pain and dysesthesia in the left groin and the anterolateral aspect of the thigh, 2 days post LVR. The symptoms persisted and during examination at the 3-month follow-up, she was found to have altered sensation over anterolateral thigh with tenderness medial to the anterior superior iliac spine (ASIS). The remainder of the neurological examination was normal. She had an unremarkable past medical or surgical history and denied previous back trauma. Subsequent abdominal and lumbar spine plain films did not demonstrate any obvious bony abnormality. A conservative approach was taken and at the 6-month follow-up the symptoms had resolved. Repeat examination revealed a normal neurological examination with no residual sensory alteration.

Patient 2. A 51-year-old female patient reported increased sensitivity to bed sheets over the anterolateral aspect of her left thigh in the immediate post-operative period following LVR. The dysesthesia was partially alleviated by rubbing or massaging the thigh. Upon examination, a tender point was noted near the left ASIS, where pressure reproduced the burning sensation. Over the next 3 months the pain remained. At the follow-

up, neurological examination revealed allodynia along the anterolateral aspect of the thigh, with tenderness medial to the left ASIS. (AU: How many months post-op did this initial follow-up occur?) She subsequently underwent nerve conduction studies which detected a low amplitude sensory potential of the left LFCN in comparison to the contralateral nerve. Following this, she was referred to the chronic pain team. At the 9 month follow-up, her symptoms remained but were markedly improved with anti-neuropathic pain medications. Repeat examination was unremarkable with no sensory or motor deficit. Interestingly, the tender trigger point was no longer present.

DISCUSSION

Injury or entrapment to surrounding neural structures following common laparoscopic procedures, including appendectomy, cholecystectomy, hysterectomy, and herniorrhaphy is widely reported, with most cases being transient and requiring no specific treatment (1,7,8).

In some cases, additional surgical intervention is required for successful management of symptoms. Sampath et al (7) have described 2 patients with severe groin pain followed by persistent numbness in the distribution of the LFCN after laparoscopic herniorrhaphy, secondary to iatrogenic nerve stapling. Both of these patients required exploration of the previous herniorrhaphy site (7). Similarly, Eubanks et al (9) reported on similar cases of MP, caused by the placement of staples through the LFCN which required explorative surgery for symptomatic relief.

The LFCN arises from dorsal branches of the second and third lumbar roots (10). It crosses the iliacus muscle deep to the fascia. After its intrapelvic course, the nerve crosses the deep circumflex iliac artery and passes through an aperture approximately one finger breath medial to the ASIS and one cm deep to the inguinal ligament (10) (Fig. 2). Grothaus et al (10) showed a large variability in the course and branching patterns of LFCN, such that the nerve may be more medial to the ASIS or branch prior to traversing the inguinal ligament, therefore potentially putting the nerve at greater risk during laparoscopic surgery.

In our patients, the MP syndrome was clearly related to the operation because symptoms appeared in the immediate post-operative period and were not present beforehand. Direct intra-abdominal injury of the nerve is unlikely since it passes retroperitoneally and inferiorly to the ports. The pneumoperitoneum is

also unlikely to injure the nerve since the increase in intra-abdominal pressure is only around 15 mm Hg. These pressures are thought to be too low to cause barotrauma (8). In our patients, the most likely aetiology of MP is external compression of the LFCN during the procedure, secondary to trocar and instrument manipulation and/or patient positioning. The former will result in direct compression of the nerve as it passes medial to the ASIS, whilst the latter will lead to nerve compression in the inguinal ligament with hip extension. Such occurrences have been previously reported in the literature for both open and laparoscopic procedures (8).

CONCLUSION

LVR is a relatively new and evolving procedure with few reports of associated peri-operative complications. This case report documents 2 cases of MP as a complication of this procedure. With thorough knowledge of local anatomy and improved skills in trocar placement and patient positioning, it may be possible to prevent the development of this problem. From our experience, when MP is suspected, patients should undergo nerve conduction studies followed by referral to the pain management team if symptoms persist.

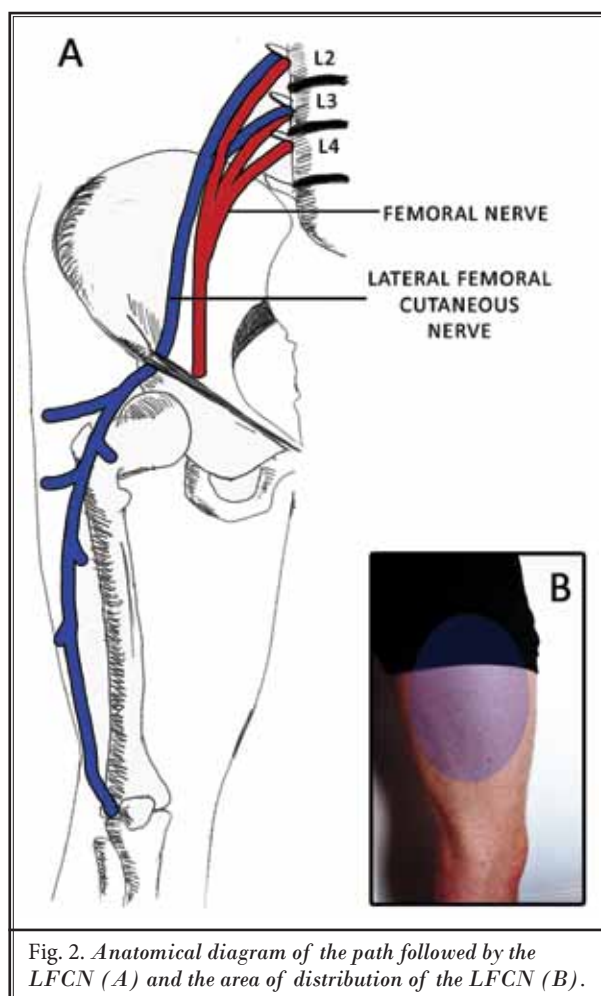


Fig. 2. Anatomical diagram of the path followed by the LFCN (A) and the area of distribution of the LFCN (B).

REFERENCES

- Majkrzak A, Johnston J, Kacey D, and Zeller J. Variability of the lateral femoral cutaneous nerve: An anatomic basis for planning safe surgical approaches. *Clin Anat* 2010; 23:304-311.
- Harney D, Patijn J. Meralgia paraesthetica: Diagnosis and management strategies. *Pain Med* 2007; 8:669-677.
- Boyce JR. Meralgia paresthetica and tight trousers. *JAMA* 1984; 251:1553.
- Grossman MG, Ducey SA, Nadler SS, Levy AS. Meralgia paresthetica: Diagnosis and treatment. *J Am Acad Orthop Surg* 2001; 9:336-344.
- O'Brian JT, Massey EW. Mononeuropathy in diabetes mellitus: A phenomenon easily overlooked. *Postgrad Med* 1979; 65:128-135.
- Cheatham SW, Kolber MJ, Salamh PA. Meralgia paresthetica: A review of the literature. *Int J Sports Phys Ther* 2013; 8:883-893.
- Sampath P, Yeo CJ, Campbell JN. Nerve injury associated with laparoscopic inguinal herniorrhaphy. *Surgery* 1995; 118:829-33.
- Yamout B, Tayyim A, Farhat W. Meralgia paresthetica as a complication of laparoscopic cholecystectomy. *Clin Neurol Neurosurg* 1994; 96:143-144.
- Eubank S, Newman III L, Goehring L, Lucas GW, Adams CP, Mason E, Duncan T. Meralgia paresthetica: A complication of laparoscopic herniorrhaphy. *Surg Laparosc Endosc* 1993; 3:381-385.
- Grothaus MC, Holt M, Mekhail AO, Ebraheim NA, Yeasting RA. Lateral femoral cutaneous nerve: An anatomic study. *Clin Orthop Relat Res* 2005; 437:164-168.

