

A conservative therapy for reducing meralgia paresthetica :a case study

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【Abstract】

I experienced a patient with pain located in his anterolateral aspect of thigh. As a result of physical therapy assessment, it might be caused by entrapment of lateral femoral cutaneous nerve (LFCN). And I thought the entrapment has been occurred by several factors. The main three factors I thought was that hypertonic muscles surrounding right hip joint, lumbar instability syndrome, and his daily habit spending much time in sitting. So, I mainly carried out treatments of L2/3 disc traction and soft tissue mobilization for right psoas major (PA) and tensor fasciae latae (TFL). Then, those treatment was effective immediately. After that, his progress was good, and he left the hospital and was able to reinstated three days later.

【Background】

The LFCN of the thigh is a sensory nerve which travels through the pelvis heading towards the anterior superior iliac spine (ASIS) and exits the lesser pelvis below the inguinal ligament, anterior to the ASIS. It is reported that meralgia paresthetica (MP) is caused by entrapment of LFCN¹⁾. MP is frequently caused by the entrapment at the level of the inguinal ligament¹⁾. When it comes to treatments for MP, it is suggested that we should carry out conservative therapy such as medication and nerve block initially, then surgery can be selected in case those treatments are not effective. At present, conservative treatments including physical therapy are inadequate for evidence²⁾.

The aim of this report is to explain my experience which I treated a patient who had the pain and numbness located in the

anterolateral aspects of thigh.

【Case report】

The patient was a 40-year-old male, worked in a city hall. Day of injury, he felt a coxalgia when he got out of car. Then he couldn't walk around, so he has been transported to emergency, eventually had been hospitalized. He had been diagnosed for the Lumbar disc herniation, with L2/3,4/5 posterior disc protrusion result of the MRI scan. He had past history of high blood pressure, injury of posterior cruciate ligament, a strained back, and chronic low back pain. He was a rugby player in his high school days, and his hobby was working out in training gym.

【Ethical considerations】

Based on the Helsinki Declaration, I had explained the purpose and content of this study to the patient orally, and obtained the agreement for participation of this study.

【Tests and measures】

The patient complained a pain located in the anterolateral aspects(Fig.1) of his thigh (Numerical Rating Scale:NRS=7~8). He had no rest pain, but he couldn't stand up nor walk due to the pain. His progress was well, but the pain was aggravated by supine position, whereas it was eased by supine position with his knee bended. It was positive that right Straight Leg Raising(SLR) test, Femoral Nerve Stretching Test(FNST) and LFCN stretching test. His postural alignment appeared to be the flat back posture but L2-4 were locally extended. The patient demonstrated decreased muscle performance of the iliopsoas(3/4) and quadriceps(4/5). Range Of Motion(ROM)-t: lumbar extension(10°) and right hip extension(0°) were restricted. Accessory movement test:L1,3 were hypomobile, whereas L2,L4-5 were hypermobile. Muscle length tests:right Ober test, Ely test and Thomas test were positive. Palpation: right rectus femoris, TFL, PM, erector lumbar spinae were hypertonic. As Orthopedic tests, Anterior impingement test, Patrick test, and various SI Joint tests were negative.

As a result of MRI, there were L2/3,4/5 posterior disc protrusion, but there was no abnormal findings in hip joint.

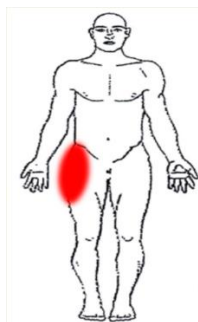


Fig.1:Pain and numbness area

【Clinical impression and intervention】

I thought that he had been suffering from L3 nerve root symptoms caused by neuropathic compression. And it is reported that neuropathic pain compressive neuropathy should be treated with the priority than peripheral nerve sensitization³⁾. So, I made the trial treatment with the L2/3 disc traction(Fig.2). Furthermore, I suspected it also had the entrapment syndrome of LFCN, because there was a finding LFCN test was positive. I added the treatment for right TFL(Fig.3) and PM(Fig.4).

【Results】

As a result of treatment with the L2/3 disc traction, his pain had decreased(NRS=1~2). Furthermore, additional treatments for right TFL and PM were also effective for his pain so that he had no pain after the treatment.

The patient left the hospital and he was able to be reinstated three days later. He received the outpatient therapy, then we finished the program when he could manage his self-exercises.

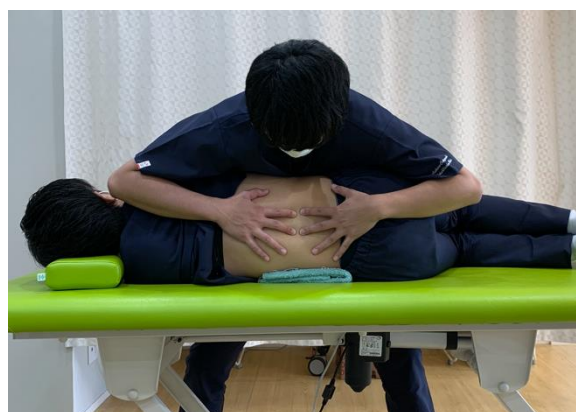


Fig.2:L2/3 disc traction



Fig.3:Deep transverse friction massage for TFL

Table1. History and system review

Date	Program
Day of injury	Onset of the pain
The next day following the onset	Admission
1 week later	First Session of PT
3 days later	Discharge
2 Months later	Completion of the PT



Fig.4-1:Functional massage for PM-Starting Position



Fig.4-2:Functional massage for PM-End Position

【Discussion】

LFCN is a sensory nerve, so I thought that the pain was caused by L3 nerve root. However, it is undeniable he mainly had suffered from MP. The patient had high intensity symptoms and presented high irritability so I couldn't carry out some assessments.

MP is said that it's often found in office worker sitting longtime when working. There are several contributing factors such as his sitting posture in working. Furthermore, it is indicated he has been suffering from lumbar instability syndrome chronically due to past history of a strained back and chronic low back pain.

At present, conservative therapies including physical therapy has little evidence for treatment of MP, but the reason why the patient got well by conservative treatment is possibly the entrapment was acute phase and mild. Kudo has investigated that the positional relation between LFCN and PM. In this study, it is found that 8 cases among 12 cases goes through PM, and they mention the possibility for treatment of MP by improving the dysfunction of PM or lumbopelvic malalignment. Besides, it is reported that

LFCN has different travels and branches⁴. Thus, clinical features and pathophysiology might differ by individual patients.

In this case, he has dysfunction of hip joint flexors surrounding the inguinal ligament, so it might be effective to relieve the entrapment of LFCN by improving the flexibility or sliding of hip joint flexors.

【Conclusion】

There is little evidence about treatment for meralgia paresthetica. However, I experienced a patient with his thigh. As a result of the individualized assessment and treatment based on clinical reasoning, the patient got well and he was able to be reinstated. This case has reconfirmed the importance of proceeding the clinical reasoning not only using the known evidence but also discovering the problems which varies by each individual.

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