Meralgia Paraesthetica

Description

Meralgia paraesthetica comes from the Greek words meros (thigh) and algos (pain)\(^1\). Meralgia paraesthetica is usually an entrapment neuropathy of the lateral femoral cutaneous nerve (LFCN). It may be iatrogenic after medical or surgical procedures, or result from a neuroma. The segmental origin is L2/L3 and it is a purely sensory nerve with no motor fibres\(^2\).

The most common cause of impingement of the LFCN is entrapment of the nerve under the inguinal ligament, which can occur spontaneously or develop after an injury.

Anatomy

The nerve originates from the L2/L3 segments and travels down, lateral to the psoas muscle. It crosses the iliacus muscle deep to the fascia and then passes through or under the lateral part of the inguinal ligament. It runs superficially and divides into anterior and posterior branches to innervate the lateral thigh. The course of the nerve can be variable.

Epidemiology\(^3\)

An incidence has been estimated at 4.3 per 10,000 person years. It occurs most commonly in people between the ages of 30 to 40 years. The condition is thought to be much rarer in children. It has a higher predilection in men than in women.
Risk factors\cite{3, 4, 5}
Meralgia paraesthetica can occur in pregnancy, in obesity and if there is tense ascites. It may be a result of trauma, surgery (such as pelvic osteotomy, spinal surgeries, laparoscopic hema repair and bariatric surgery) or, in some cases, may arise from abduction splints used to treat Perthes’ disease, also called Calvé-Legg-Perthes disease.

Various sports and physical activities have been implicated, including gymnastics, baseball, soccer, bodybuilding and strenuous exercise. Lying for long periods of time in the fetal position and lying prone after lumbar spine surgery have also been identified as possible causes. Risk factors can arise in the most unlikely scenarios. Most cases are idiopathic.

It occurs more commonly in those with diabetes than in the general population.

Presentation
Entrapment causes burning or numbness down the upper lateral aspect of the thigh. In children and adolescents the presentation may be severe pain causing marked restriction of activities. It may be bilateral. The symptoms are usually aggravated by standing and relieved by sitting\cite{5}.

Examination
The pain can be reproduced by deep palpation just below the anterior superior iliac spine (pelvic compression) and also by extension of the hip\cite{6}. There is altered sensation over the anterolateral aspect of the thigh. There is no motor weakness.

Differential diagnosis
Very often the diagnosis is slow to be made. Pain in the lateral thigh can arise from the back or hip\cite{3}. It is important to consider the possibility of the diagnosis and to try deep palpation medial to the anterior superior iliac spine and extension of the hip. Injection with local anaesthetic appears to be a good test.

Other conditions that may need to be ruled out include\cite{7}:
- Diabetic lumbosacral plexopathy.
- Lumbar degenerative disc disease.
- Lumbar facet arthropathy.
- Lumbar spondylolysis and spondylolisthesis.
- Mononeuritis multiplex.
- Neoplastic lumbosacral plexopathy.

Rarely, pressure on the lateral cutaneous femoral nerve can arise from a mass in the retroperitoneal space - eg, tumours, iliacus haematoma\cite{8}.

Investigations
- The pelvic compression test is highly sensitive and the diagnosis can often be made with this test alone\cite{6}.
- Injection of the nerve with local anaesthetic will abolish the pain. Ultrasound is effective both for diagnosis and for guiding injection therapy\cite{9}.
- Nerve conduction studies may be useful\cite{5}.
- MRI neurography of the lateral cutaneous nerve may be used to assist in diagnosis\cite{3}.

Other tests to rule out differential diagnoses might include fasting blood glucose, MRI of the lumbar spine and radiographs for possible pelvic fracture or cancer.
Management

The evidence base for the treatment of meralgia paraesthetica is weak; randomised controlled trials are needed[10].

- In the case of obesity, loss of weight may cure the condition but is not guaranteed. It should resolve after pregnancy and tapping of ascites should help[11].
- Idiopathic meralgia paraesthetica usually improves with non-operative modalities, such as removal of compressive agents, non-steroidal anti-inflammatory drugs (NSAIDs), anticonvulsants or tricyclics and, if necessary, local corticosteroid injections[12].
- Transcutaneous electrical nerve stimulation (TENS) has been found helpful, especially when combined with pregabalin[13].
- Other physical therapies reported in being helpful in relieving chronic symptoms include mobilisation/manipulation for the pelvis, myofascial therapy for the rectus femoris and iliopsoas, transverse friction massage of the inguinal ligament, stretching exercises for the hip and pelvic musculature, and pelvic stabilisation/abdominal core exercises[3].
- Ultrasound is effective, both for diagnosis and for guiding injection therapy[9].
- If the pain is severe, operative decompression should be considered. A supra-inguinal or infra-inguinal approach may be used[3].

Prognosis

Most cases are self-limiting. However, although paraesthesia tends to resolve over time, numbness can persist[14].

Further reading & references


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