

Meralgia paresthetica as a cause of leg discomfort

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Summary: A series of 74 cases of meralgia paresthetica is presented. All patients were satisfactorily treated with nonsurgical modalities. A brief review of the etiological factors involved supports the impression that it is an entrapment syndrome related primarily to external pressure against the lateral femoral cutaneous nerve in the region of the anterior superior iliac spine. Though its peripheral symptomatology is relatively straightforward, often associated pain referred to the gluteal area results in an incorrect diagnosis of sciatic radiculopathy due to "disc disease". The correct diagnosis can be easily made from the relief obtained by injecting the lateral femoral cutaneous nerve with an anesthetic agent.

Résumé: Cas de meralgie paresthésique, cause possible de malaises au niveau des jambes

Nous présentons ici 74 cas de meralgie paresthésique. Tous ces malades ont été traités de façon satisfaisante par des traitements purement médicaux. Une brève revue des facteurs étiologiques en cause laisse l'impression qu'il s'agit d'un syndrome "d'emprisonnement" causé principalement par une pression externe contre le nerf cutané latéral du fémur dans la région de l'épine iliaque antérosupérieure. Bien que la symptomatologie périphérique soit relativement simple, il arrive souvent qu'une douleur contemporaine transférée à la région glutéale mène à un diagnostic erroné de radiculopathie sciatique par "maladie discale". On peut éviter ce risque et porter un diagnostic exact en notant le soulagement obtenu d'une infiltration du nerf cutané latéral du fémur par un anesthésique.

Meralgia paresthetica (Bernhardt-Roth syndrome) has been described for many years in the general medical literature,¹⁻⁷ and more frequently in neurologic and neurosurgical journals.⁸⁻¹⁵ Most of the recent papers, though discussing the differential diagnosis, have stressed surgical treatment if spontaneous improvement does not occur following the removal of the offending etiological factors.^{12,15}

The purposes of this paper are to reiterate the prevalence of this condi-

tion by reporting the frequency of its diagnosis in a group of over 1000 patients referred for the evaluation of leg discomfort, and to review the effectiveness of various forms of treatment.

The diagnosis of meralgia paresthetica implies an affliction of the lateral femoral cutaneous nerve. This nerve is derived from the ventral divisions of the second and third lumbar roots. It supplies the lateral and anterior surface of the thigh as far as the knee. Despite the long pelvic pathway of the lumbar roots that contribute to the formation of the lateral femoral cutaneous nerve, the entity of meralgia paresthetica is infrequently due to etiologic factors affecting the roots in their proximal pelvic course. It has been reported that meralgia paresthetica may be caused by primary neural lesions within the spinal canal, degenerative disc disease, arachnoiditis, appendiceal abscess and an intra-abdominal or pelvic mass (as in pregnancy).^{3,14} In all of the fully reported cases, however, there are extenuating circumstances that make it debatable whether the offending pathology involved the proximal roots or the distal nerve.

The lumbar nerve roots join to form the nerve just before it passes through the tunnel in the inguinal fascia adjacent to the anterior superior iliac spine. There is marked angulation of the nerve where it pierces the fascia lata; it is at this point of angulation that the entrapment causing meralgia paresthetica is believed to occur.¹⁵

Early observations tended to relate meralgia paresthetica to prolonged toxic or infectious processes requiring a long stay in bed and associated with weight loss, whereas later writers have been impressed by mechanical factors as a probable cause.¹⁵ Analysing earlier series, it would appear that the weight loss coupled with prolonged confinement to bed subjects the lateral femoral cutaneous nerve to more direct pressure, which in all probability is the major etiologic factor in meralgia parest-

hetica whether the patient is in bed or not.

The occurrence rate of meralgia paresthetica is a moot point because of the frequency of incorrect diagnosis. In the author's series of 1110 patients referred for evaluation of leg discomfort, the diagnosis of meralgia paresthetica was made in 74 (6.7%) (Table I). Other series report this diagnosis in 22 to 35% of such patients.^{3,12,14}

The usual symptoms associated with meralgia paresthetica are a dull ache accompanied by numbness and tingling on the anterolateral aspect of the thigh, not particularly aggravated or relieved by walking or standing; in fact, their persistence while lying down soon becomes one of the most distressing complaints. Occasionally there may be extension of the symptomatology below the knee to the lateral aspect of the calf, but this is unusual and occurred in only three of the author's patients. Two additional symptoms are a distressing hyperesthesia provoked by lightly stroking the skin of the lateral thigh, and tenderness localized over the point where the nerve pierces the fascia lata adjacent to the anterior superior iliac spine.

When a peripheral nerve is irritated by compression, as, for example, in the carpal tunnel syndrome, pain is usually referred both proximally and distally, but dysesthesias occur only distal to the site of irritation. Because of this phe-

Table I—The etiology of leg discomfort in 1110 patients referred for neurologic evaluation

Lumbar disc disease and its complications	807
Lumbosacral radiculopathy secondary to intradural spinal pathology	142
Non-neurologic disease	87
Meralgia paresthetica	74

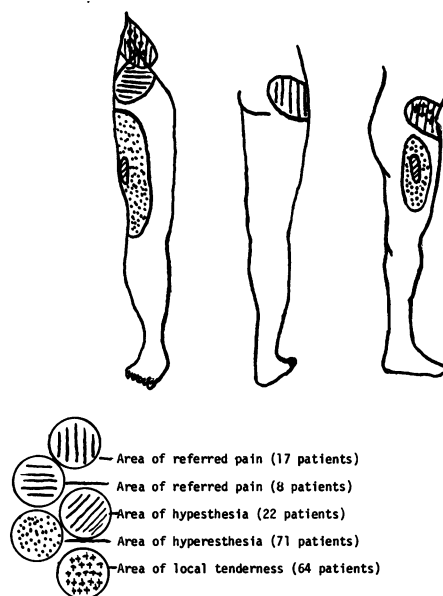


FIG. 1—Patterns of pain referral, hypesthesia, hyperesthesia and local tenderness in the 74 patients with meralgia paresthetica.

nomenon, pain in meralgia paresthetica may be referred to the gluteal region, resulting in the incorrect diagnosis of lumbar radiculopathy secondary to disc disease.

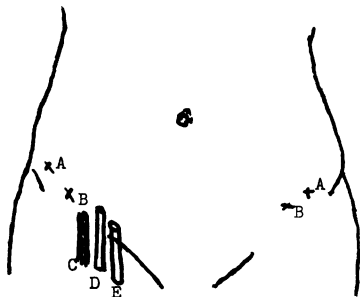
The patterns of pain referral, hypesthesia, hyperesthesia and local tenderness in the author's series of cases are shown in Fig. 1.

A simple valuable test to aid in the diagnosis of meralgia paresthetica is injection of procaine into the lateral femoral cutaneous nerve at a point adjacent to the anterior superior iliac spine (Fig. 2). This injection site is in the lateral one third of the marginal area, well removed from the femoral nerve, artery and vein, which avoids the inadvertent infiltration of these structures. Injection of at least 6 ml of procaine at the prescribed site will allow a wide enough diffusion of the anesthetic material so that regardless of anatomical variations in the position of the nerve a satisfactory anesthetic effect can be safely obtained. The immediate relief of pain is dramatic in most cases.

In most patients, if the entity of meralgia paresthetica is considered, a precipitating etiologic factor is usually present — weight loss and/or external constrictive or traumatic factors such as belts, girdles or prolonged bed rest. Obesity may also be a contributory cause, but only in that increased weight aggravates the external factors already mentioned.

In spite of the propensity of diabetics to have peripheral neuropathies, the occurrence of meralgia paresthetica appears to be no more frequent in this group of patients. It is also of interest that despite the presence of appropriate etiologic factors, its occurrence in patients below 20 years of age has not been reported.

Though the need for surgery in patients with persistent symptoms has been well documented,^{3,9,5,11,15} no patients in the author's series have required surgical treatment. In most pa-



A = Anterior superior iliac spine
B = Injection point
C = Femoral nerve
D = Femoral artery
E = Femoral vein

FIG. 2—Anatomic relation of site of injection of procaine to nearby structures.

tients, reassurance that their symptoms did not represent the first signs of some more serious neurologic disorder was sufficient "therapy". Injecting the lateral femoral cutaneous nerve as it issued from the groin with 2 ml of Solu-Medrol® (methylprednisolone sodium succinate) and procaine served to relieve discomfort in 11 patients who continued to be annoyed with paresthesias in spite of being assured of the nature of their problem. Finally, the adjunctive oral use of Taractan® (chlorprothixene) 100 mg/day¹⁶ has been helpful in treating patients whose pain returned following injection (Table II).

Table II—Modalities of treatment in 74 patients with meralgia paresthetica

	Temporary relief of symptoms	Permanent relief of symptoms*
Reassurance only	19	55
Procaine and Solu-Medrol	8	11
Taractan†		8

*Patients followed for a minimum of 18 months

†Patients followed for a minimum of 12 months

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PRODUCT INFORMATION

DESCRIPTION: An original compound of organic synthesis, Arlidin (nylidrin HCl) is phenyl secondary butyl norhydroxyephedrine. It is related chemically to the epinephrine-ephedrine series.

ACTION: Arlidin introduced into clinical medicine for the first time a specific vasodynamic agent that relaxes and dilates the arteries and arterioles predominantly in skeletal muscle and is distinguished by its effect in producing a compensatory increase in cardiac output.

INDICATIONS AND CLINICAL USE:

In peripheral vascular disorders: In peripheral vascular disorders, Arlidin (nylidrin HCl) increases walking ability and promotes healing of trophic ulcers associated with arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's disease), diabetic vascular disease, night leg cramps, Raynaud's phenomenon, ischemic ulcers, frostbite, thrombophlebitis.

CONTRAINDICATION: Acute myocardial infarctions (following myocardial infarction, the initiation or reestablishment of Arlidin therapy should be undertaken in the same way as physical exercise. After a reasonable healing period, gradual upward adjustment of dosage to therapeutic levels may be attempted).

WARNING: To be used only on the advice of a physician.

PRECAUTIONS: Like any effective peripheral vasodilator, Arlidin should be used with caution in the presence of a recent myocardial lesion, paroxysmal tachycardia, severe angina pectoris, and thyrotoxicosis. At recommended dosage levels it may be used safely in patients with coronary artery disease, diabetes, asthma, peptic ulcer and other conditions that may complicate the circulatory disturbances for which the drug is indicated. Safety during pregnancy has not been demonstrated.

ADVERSE REACTIONS: Nervousness, trembling and weakness, dizziness, nausea and vomiting, tachycardia and palpitation, possible postural hypotension and allergic manifestations. The literature indicates that none of these occur with great frequency.

TREATMENT OF OVERDOSAGE: Administer mild sedative or beta blocking drug titrated against cardiovascular response.

DOSAGE AND ADMINISTRATION: Orally, 1 tablet three or four times a day, or may be increased to 2 tablets three or four times a day.

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