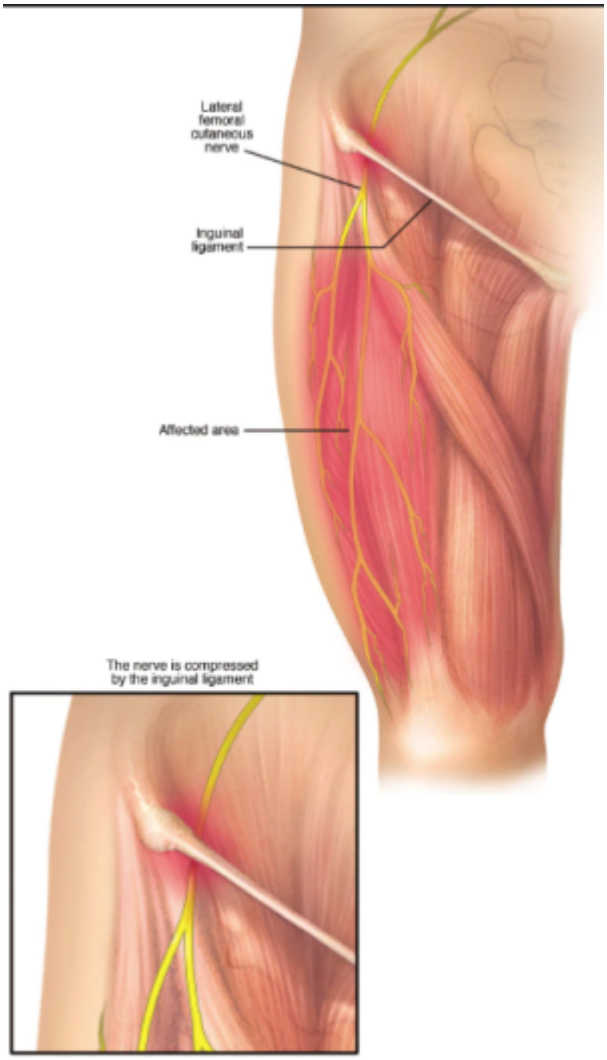
Meralgia Paresthetica Surgery



Options include:

Neurolysis, Neurectomy, Transposition.

Selective L2 nerve stimulation

In Neurectomy there are risks of denervation pain, and leaves an anesthetic area (usually a minor nuisance). May be best reserved for treatment failures.

There was insufficient evidence to recommended neurolysis or neurectomy treatment over the other. This highlights the importance of keeping a registry in order to compare outcomes between the two methods of treatment [1)].

Technique

Meralgia Paresthetica Surgery Technique.

The considerable anatomic variability of this nerve may complicate surgical localization and thus prolong operative time. Ellis et al., report the use of preoperative high-resolution ultrasonography to map the LFCN in a patient with bilateral meralgia paresthetica. This simple, noninvasive imaging technique was seen to be effective at providing precise localization of the entrapped and, in this case, bilateral anatomically variant nerves. Preoperative high-resolution ultrasound mapping of the LCFN can be used to facilitate precise operative localization in the treatment of bilateral meralgia paresthetica. This is especially useful in the setting of suspected unusual nerve anatomy [2)].

Malessy et al., presented a new technique using dynamic decompression and discussed the outcomes.

A retrospective cohort study was performed in a consecutive series of 19 cases. The goal of decompression was pain relief and recovery of sensation. The plane ventral to the LFCN was decompressed by cutting the fascia lata and the inferior aspect of the inguinal ligament. The plane dorsal to the LFCN was decompressed by cutting the fascia of the sartorius muscle. Subsequently, the thigh was brought in full range of flexion and extension/abduction. The authors identified and additionally cut fibers that tightened and caused compression at various locations of the LFCN during movement in all patients, referring to this technique as dynamic decompression. Postoperatively, an independent neurologist scored pain and sensation on a 4-point scale: completely resolved, improved, not changed, or worsened. Patients scored their remaining pain or sensory deficit as a percentage of the preoperative level. Statistical assessment was done using ANOVA to assess the association between outcome and duration of preoperative symptoms, BMI, and length of follow-up.

In 17 of the 19 cases (89%), the pain and/or paresthesia completely resolved. Patients in the remaining 2 cases (11%) experienced 70% and 80% reduction in pain. Sensation completely recovered in 13 of the 19 cases (69%). In 5 of the 19 cases (26%) sensation improved, but an area of hypesthesia remained. Four of these 5 patients indicated a sensory improvement of more than 75%, and the remaining patient had 50% improvement. Sensation remained unchanged in 1 case (5%) with persisting hypesthesia and mild hyperesthesia. There was no significant impact of preoperative symptom duration, BMI, and length of follow-up on postoperative outcome.

Dynamic decompression of the LFCN is an effective technique for the treatment of iMP. Most patients become completely pain free and sensation recovers considerably [3)].

Transposition

Nineteen patients with meralgia paresthetica were treated in the Department of Neurological Surgery at University of Wisconsin between 2011 and 2016; 4 patients underwent simple decompression, 5 deep decompression, and 10 medial transposition. Data were collected prospectively and analyzed retrospectively. No randomization was performed. The groups were compared in terms of pain scores (based on a numeric rating scale) and reoperation rates.RESULTSThe numeric rating scale scores dropped significantly in the deep-decompression ($p = 0.148$) and transposition ($p < 0.0001$) groups at both the 3- and 12-month follow-up. The reoperation rates were significantly lower in the deep-decompression and transposition groups ($p = 0.0454$) than in the medial transposition group.CONCLUSIONSBoth deep decompression and transposition of the LFCN provide better results

than simple decompression. Medial transposition confers the advantage of mobilizing the nerve away from the anterior superior iliac spine, giving it a straighter and more relaxed course in a softer muscle bed [4].

Neuromodulation

Philip et al., described the first reported use of pulsed radiofrequency neuromodulation to relieve the intractable pain associated with meralgia paresthetica.

A 33-year-old morbidly obese female with a history of lower back pain and previous spinal fusion presented with sensory dysesthesias and paresthesias in the right anterolateral thigh, consistent with meralgia paresthetica. Temporary relief occurred with multiple lateral femoral cutaneous nerve and fascia lata blocks at 2 different institutions. The patient expressed dissatisfaction with her previous treatments and requested “any” therapeutic intervention that might lead to long-lasting pain relief. At this time, we located the anterior superior iliac spine and reproduced concordant dysesthesia. Pulsed radiofrequency was then undertaken at 42 degrees C for 120 seconds followed by dexamethasone and bupivicaine. The patient reported exceptional and prolonged pain relief at 6-month follow-up.

Since this case report is not a prospective, randomized, controlled or blinded study, no conclusions may be drawn from the results attained on behalf of this single individual. Additional, larger group analyses studying this technique while eliminating bias from patient variables would be essential prior to assuming any validity to using pulsed radiofrequency techniques of neuromodulation for managing peripheral neuropathic pain processes.

The patient had experienced long-standing pain that was recalcitrant to conservative/pharmacologic therapy and multiple nerve blocks with local steroid instillations. A single treatment with pulsed radiofrequency resulted in complete and sustained cessation of pain. No side effects were evident. Pulsed radiofrequency of the LFCN may offer an effective, low risk treatment in patients with meralgia paresthetica who are refractory to conservative medical management or are unwilling or unfit to undergo surgery [5].

Case series

Patients whose symptoms did not improve after medical and conservative treatment for at least 3 months were included in this study. These patients underwent neurolysis and decompression surgery and had a mean postoperative follow-up of 38 months. Their pain levels were assessed by the VAS scoring system.

In 8 (61.5%) patients, the symptoms completely resolved within the first 3 months. In 5 (38.5%) patients, the complaints persisted partially and the recovery was observed after 12 months. In patients having a metabolic etiology, the duration of recovery was up to 12 months.

The long term results of surgery are good though only partial improvements in reported pain were seen in the early postoperative period, especially in patients with a metabolic etiology [6].

A total of 16 surgical decompressions could be identified. Retrospective analysis of prospectively

collected patient data was performed, as well as systematic evaluation of the postoperative course, with regular follow-up examinations based on a standardized protocol. Pain was analyzed using an NRS (numeric rating scale). Several postsurgical parameters, including temperature hypersensitivity and numbness in the LFCN region, were compared with the presurgical data.Sixty-nine percent of patients had histories of trauma or surgery, which were designated as the onset of pain. Of these patients, 78% had hip prostheses, 2 had previous falls. Postoperatively, a significant reduction of 6.6 points in the mean NRS pain value was observed. All other evaluated parameters also improved postoperatively. Patient satisfaction was high, with 86% reporting complete satisfaction, and 14% reporting partial satisfaction.Previous studies favor either avulsion/neurectomy as the preferred procedure for MP treatment, or provide no recommendation. Our findings instead confirm the decompression/neurolysis approach as the primary surgical procedure of choice for the treatment of MP, if conservative treatment fails [7].

Six patients with intractable meralgia paresthetica with severe pain over antero-lateral thigh along the distribution of lateral cutaneous nerve of thigh which was further confirmed by nerve conduction study. These patients did not respond to the oral anti-neuropathic medications. The two successive diagnostic lateral femoral cutaneous nerve block not only had confirmed the diagnosis but also provided pain relief for a few days. Then the ultrasound-guided lateral femoral cutaneous nerve neurolysis was done using 50% alcohol. In all the patients, there were more than 50% decrease in pain intensity and improvement in quality of life after the procedure, and the relief and improvement were maintained for up to 12 weeks. This case series shows ultrasound-guided lateral femoral cutaneous nerve neurolysis is a safe and effective treatment for intractable meralgia paresthetica and also provides prolonged pain relief and is a good option in avoiding the surgery. Summary points The literature on neurolysis is rare, with only few case reports. This is the first case series on this topic, and it will greatly improve the evidence that ultrasound-guided neurolysis can also be used for intractable meralgia paresthetica patients who do not respond to conservative measures before proceeding to surgery [8].

References

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