Original Article

Is Triamcinolone an Easy and Efficient Way to Treat Meralgia Paresthetica? A Cohort Study

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Abstract

Introduction: Meralgia paresthetica (MP) is a painful mononeuropathy of the lateral femoral cutaneous nerve. It is usually idiopathic and can be treated with drugs used for neuropathic pain such as pregabalin, gabapentin, and amitriptyline. **Objectives:** This study was done to study the effect of triamcinolone acetonide on drug refractory MP. **Methods:** This study was a retrospective case file review. **Results:** Eight patients were treated with local injections of triamcinolone. The patients were followed up for a period of 4 months to 54 months. There was significant symptomatic improvement with six patients having complete improvement and all patients reporting >50% improvement. Patients who had recurrence of symptoms on follow up received up to four injections as per their requirement and repeated injections also produced >50% symptom relief. **Conclusion:** Triamcinolone acetonide injected locally seems to be an effective and safe treatment for refractory MP. A randomized control trial has been planned to look for efficacy and safety.

Keywords: Drug refractory meralgia, lateral femoral cutaneous nerve, local corticosteroid injection, meralgia paresthetica, neuropathic pain, triamcinolone

Introduction

Meralgia paresthetica (MP) is a mononeuropathy of the lateral femoral cutaneous nerve (lateral cutaneous nerve of thigh). It is usually idiopathic and leads to painful paresthesias and discomfort in the upper lateral aspect of the thigh. It is commonly treated medically with gabapentin and pregabalin with adverse effects such as sedation and weight gain. Perineural injection of corticosteroids such as triamcinolone, dexamethasone, betamethasone, and methylprednisolone have been shown to be effective in case series.[1] However, the duration of action and effect of repeated injections after previous dose effect wears off is not known. This study presents the efficacy and safety of repeated injections of triamcinolone acetonide in MP.

Materials and Methods

This was a retrospective case file review of a cohort of patients registered in the neuromuscular disorders clinic of a tertiary care center from 2013 to 2017. Patients were diagnosed to have MP based on their clinical history and description of the location of pain. Nerve conduction study was done in all cases which was also consistent with the diagnosis of MP. The study was designed according to the STROBE checklist for observational studies and approved by the Institutional Review Board.

Subjects

Patients who were refractory to conventional treatment (weight loss, avoiding tight belts, tight garments, no response, or intolerance to drugs) were included. Participants with any surgical procedure around the iliac crest region, pregnancy, etc., were excluded from the study. Demographic details, duration, severity of symptom at baseline on a global subjective scale (0–100) (0 means no pain relief and 100 means complete pain relief), and medication taken for symptom relief were noted.

Injection protocol

Injection was given in supine position with pillow under the knees for patient's comfort. Injection triamcinolone acetonide, 40 mg was injected (26 G with tuberculin syringe) 1 cm below the junction of the lateral one-third and medial two-third of the line joining the anterior superior iliac spine to the pubic symphysis.

Assessment and follow-up

Oral medication was down titrated if there was relief with injection. Postinjection follow-up assessment was done based on global subjective scale with score of 0–100. Onset and duration of pain relief and need for reduction in symptomatic medication were recorded. Patients came back to the clinic on relapse of symptoms and were given further injections within a week of relapse. This has been tabulated in Table 1 as the number of injections and relief of symptoms after each dose.

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Results

The study included 8 patients treated with injection triamcinolone over a period of 4 years. MP was unilateral in 7 of the 8 patients. One of the patients (patient 6) had idiopathic intracranial hypertension (IIH) in the past and was treated with acetazolamide and dexamethasone for a short course with favorable outcome in terms of vision. He developed MP 6 years after the diagnosis of IIH. He had complete relief with a single injection with effect lasting >16 months at last follow-up. There were no adverse effects.

Symptom relief started on a mean of 3.26 days (range 0–15) after the injection. Effect of injection lasted a mean of 10.42 months (range 3–24+). Efficacy of symptom relief ranged from 0 to 100% (mean 79.47%). As seen in Table 1, 6 out of 8 patients had 100% relief in symptoms and rest 2 patients had >50% reduction in severity of symptoms. Seven patients were able to completely discontinue oral medications. Repeat injections were offered to patients whose injection effect had waned and had recurrence of symptoms and patients responded with significant pain relief [Table 1].

Discussion

There are no clear protocols or guidelines to treat MP, and it is treated on the lines of neuropathic pain with drugs such as pregabalin, gabapentin, and amitriptyline. Local injections of anesthetic agents and perineural injection of corticosteroids have been tried.[2,3]

In a randomized controlled trial (RCT) comparing pregabalin 300 mg/day with local triamcinolone injection 20 mg diluted in prilocaine, it was found that there was significant reduction in visual analog scale (VAS) at 4 weeks in both groups (VAS 8–5, $P < 0.001$). The difference between the two groups was not significant.[4] A Cochrane meta-analysis[5] of observational studies concluded that the objective evidence of effect of local injection of corticosteroids is weak given the absence of any published RCTs or quasi-RCTs. High-quality observational studies report comparable high improvement rates for MP following local injection of corticosteroid and surgical interventions (nerve decompression or neurectomy).[6]

In the largest retrospective study of 79 patients, 21 of 79 patients had a good response to conservative treatment while the rest (58 subjects) were injected with injection betamethasone. Complete response was seen in 48 of 58 patients. Complete relief occurred after the first injection in 22 patients, in 12 patients after the second injection (4–6 weeks after the first injection), and 14 patients after the third injection.[7] Remaining 10 patients did not respond even after the third injection.

Ivins[8] and Tumber *et al*.[9] reported >50% improvement in patients with local anesthetic and methylprednisolone injection.

Our study is the first to use repeated injections of triamcinolone, with follow-up to study the duration of action of the drug. We also used freedom from drugs used to treat neuropathic pain as a measure of efficacy of the triamcinolone

Table 1: Details of effect of injection triamcinolone and reduction in prophylactic drug dose

Patient	Injection number	Onset days	Effect (%)	Duration months	Total duration of follow-up	Drug intake (at time of injection) Dose in mg/day
1	1	10	100	8	41 months	GBP 300, AT 10
	2	10	75	9		Nil
	3	4	80	24		Nil
2	1	NA	0	NA	15 months	PG 75
	2	1	50	3		Nil
	3	7	100	11		Nil
	4	1	70	1		Nil
3	1	10	100	4	19 months	Nil
	2	15	50	9		Nil
	3	7	100	6		PG 75
4	1	10	75	4	4 months	Nil
5	1	2	50	10	54 months	AT 10
	2	2	50	8		Nil
	3	1	50	16		Nil
	4	2	100	20 +		Nil
6	1	3	70	11	41 months	PG 75, AT 10
	2	1	100	6		AT 10
	3 (BL)	2	100/90	24 +		Nil
7	1	7	90	8	8 months	Nil
8	1	5	100	16 +	16 months	Nil

The patients came back to the clinic on recurrence of symptoms and further injections were given within a week of relapse of symptoms.
AT=Amitriptyline, BL=Bilateral, GBP=Gabapentin, NA=Not applicable, PG=Pregabilin, +=At last follow-up still effect was present)

injections which is significant clinically because this could save the patient the need to take medications daily, adverse effects such as sedation, weight gain, as well as the cost of the medication since triamcinolone is a cheap drug and needs only a single injection every 3–24 months depending on patient response. Our study showed that all patients responded to triamcinolone injection with 75% patients having complete pain relief and all patients had >50% reduction in symptoms.

Low sample size, variable duration of follow up and lack of control group were the limitations of the study. This was because this study was planned as a pilot project to study the effect of triamcinolone to plan an RCT. A randomized control trial is needed to clarify if the pain relief was due to efficacy of triamcinolone or whether it is only a placebo effect. We could produce significant symptomatic relief without the use of ultrasound guidance. We feel that this could make the intervention feasible even in resource-limited setting.

Conclusion

Triamcinolone injection seems to be an effective treatment option in the management of MP. Patients may be able to discontinue medication and avoid adverse effects. It is highly effective with effect lasting for 3–24 months. It may be cost-effective as it could save the cost of oral medication to be taken.

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Conflicts of interest

There are no conflicts of interest.

References

1. Hui GK, Peng PW. Meralgia paresthetica: What an anesthesiologist needs to know. Reg Anesth Pain Med 2011;36:156-61.
2. Harney D, Patijn J. Meralgia paresthetica: Diagnosis and management strategies. Pain Med 2007;8:669-77.
3. Dureja GP, Gulaya V, Jayalakshmi TS, Mandal P. Management of meralgia paresthetica: A multimodality regimen. Anesth Analg 1995;80:1060-1.
4. Okur S, Vural M, Dogan Y, Mert M, Caglar N. Comparative Efficacy of Pregabalin and Ultrasonography-guided Lateral Femoral Cutaneous Nerve Blockage for Meralgia Paresthetica. Int J Ther Rehabil Res 2017;6:146.
5. Khalil N, Nicotra A, Rakowicz W. Treatment for meralgia paraesthetica. Cochrane Database Syst Rev 2008;(3):CD004159.
6. Ecker AD, Woltman HW. Meralgia paraesthetica: A report of one hundred and fifty cases. J Am Med Assoc 1938;110:1650-2.
7. Haim A, Pritsch T, Ben-Galim P, Dekel S. Meralgia paresthetica: A retrospective analysis of 79 patients evaluated and treated according to a standard algorithm. Acta Orthop 2006;77:482-6.
8. Ivins GK. Meralgia paresthetica, the elusive diagnosis: Clinical experience with 14 adult patients. Ann Surg 2000;232:281-6.
9. Tumber PS, Bhatia A, Chan VW. Ultrasound-guided lateral femoral cutaneous nerve block for meralgia paresthetica. Anesth Analg 2008;106:1021-2.