



TREATMENT OF PLANTAR FASCIITIS WITH LOCAL STEROID INJECTION

Orthopaedics

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ABSTRACT

Background: Plantar fasciitis is a commonly occurring foot complaint that seriously affects the patient's daily activities and quality of life. Plantar fasciitis is characterised by pain in the heel, which is aggravated on weight bearing after prolonged rest. Many modalities of treatment are commonly used in the management of plantar fasciitis including corticosteroid injection. The main objective of this study is to show the effectiveness of corticosteroid as a form of interventional pain management for plantar fasciitis.

Aim: To determine the effects of a corticosteroid injection for the treatment of patients with plantar fasciitis.

Patients And Methods: This prospective study was carried out on 40 patients suffering from chronic Plantar Fasciitis who did not respond to conservative therapies including physical therapy, NSAIDs and heel cushions for a longer period of time. The patients were selected from outpatient department in the Orthopaedics Department Govt. Medical College Srinagar. The selected patients were with complaint of heel pain in the morning or after sitting for a long time and increase in foot pain with extended walking or standing for longer period of time.

Results: The selected patients completed the treatment and follow up assessments, the corticosteroid injection was more effective for reducing the pain in the short term.

Conclusion: Corticosteroid injection is effective treatment for the reduction of pain and improvement of function in people with plantar fasciitis.

KEYWORDS

Corticosteroid injection, Plantar Heal Pain, Plantar Fasciitis.

INTRODUCTION

Plantar fasciitis [1] is a common foot condition that occurs in adults, with prevalence estimates between 4 and 7% [2, 3]. Several interventions are used to treat plantar fasciitis, although there are limited evidences to suggest which interventions are more effective [4]. Corticosteroid injection is often used to treat plantar fasciitis [5], but there is limited evidence to support its frequent use. Plantar fasciitis is a common pathological condition that can lead to significant pain and disability [6]. It has been reported as the third most common running related health problem [7], but can also affect non-athletes and less active elderly people [8]. Plantar fasciitis occurs in a wide range of age with the mostly affected between 40 to 60 years [9]. While the main cause of condition is not known, several risk factors have been reported, but the most accepted theory is repetitive micro tearing and subsequent chronic inflammation of the plantar fascia at its insertion to the medial calcaneal tubercle [10]. It is an overuse injury from repetitive micro trauma that leads to inflammation and local tissue damage [11]. A portion of the components as often as possible accepted to encourage plantar fasciitis to incorporate atypical foot biomechanics and additionally foot types, ill-advised footwear, and obesity [12-17]. All the more explicitly, foot over-pronation is accepted to put an expanded strain on the plantar delicate tissues and make the potential for injury to occur [18]. The most common presenting symptom of plantar fasciitis is a sharp pain of insidious onset with maximal tenderness at the anterior medial border of the calcaneus. The pain is typically worst on the first few steps in the morning and with initial steps after prolonged sitting or inactivity, and on examination, there is mild to severe tenderness on medial calcaneal tubercle and sometimes, on lateral aspect of heel.

Numerous methods have been advocated for treating Plantar fasciitis including rest, non-steroidal anti-inflammatory drug (NSAID), night splints, foot orthosis, stretching protocols, extra corporeal short wave therapy, steroid injections, and surgical intervention [19].

Traditionally, local injection of corticosteroid was used widely for plantar fasciitis treatment, showed improvement in symptoms, which did not last long. In this study, we analysed the effect of corticosteroid injection on the thickened plantar fascia, were determined to be effective.

Inclusion Criteria

Age of subject is 20-60 years of both genders.

Patients with plantar fasciitis for more than 3 months.

Patients without any deformity.

Normal random blood sugars and HbA1c.

Exclusion Criteria

1. Patients with Rheumatoid arthritis.
2. Any fractures or injury around the ankle or knee.
3. Patients with the bone tumor infection.
4. Patients with a history of corticosteroid injection past two months.
5. Patients with Hemorrhagic disorder.
6. Age group for less than 20 years and over 60 years.
7. Any systemic or local infective pathology.

PATIENTS AND METHODS

This prospective study was carried out on the selected 40 patients suffering from chronic Plantar Fasciitis. The patients were explained purpose, procedure and benefits of the study and a written consent was taken. Patients followed regularly and final assessment was done at 24 weeks.

Procedure

Investigation:

The patients were investigated. USG evaluation of thickness of plantar fascia was done.

Injection Infiltration:

The procedure was done on an outpatient basis and under complete aseptic conditions. Sites of maximum tenderness were pre-marked with a sterile marker. The selected patients were given 2 ml of depomedrol (80 mg methylprednisolone) locally. About 2 ml of 2% lignocaine was infiltrated prior to this. The patients were monitored for 20 minutes for adverse reactions and then sent home with instructions to limit their use of the feet for approximately 48 hours. After 48 hours, patients were given a standardized stretching protocol to follow for 2 weeks. A formal strengthening program is initiated after this stretching.

Follow-up

Follow-up of patients was done at

2 weeks

4 weeks (Patients were allowed to proceed with normal sporting or recreational activities.)

8 weeks

12 weeks

24 weeks (The functional outcome was assessed.)

USG evaluation of thickness of plantar fascia was done post-treatment.

RESULTS

While treating 40 patients with acute plantar fasciitis, following results were observed.

Table 1 : Distribution Of Cases By Age.

Age in years	No. of cases	Percentage
20-30	05	12.50%
30-40	09	22.50%
40-50	14	35.00%
50-60	12	30.00%

Maximum patients were in in age group of 40-50.

Table 2 : Distribution Of Cases By Sex.

Sex	No. of cases	Percentage
Male	11	27.50%
Female	29	72.50%

Maximum patients were females.

Table 3 : Distribution Of Cases By Side.

Side	No. of cases	Percentage
Right	17	42.50%
Left	14	35.00%
Both	09	22.50%

Right side was found more involved.

DISCUSSION

Plantar fasciitis is a commonly occurring foot complaint that seriously affects the patient's daily activities and quality of life characterized by pain in the heel. While the main cause of condition is not known, several risk factors have been reported, but the most accepted theory is repetitive micro tearing and subsequent chronic inflammation of the plantar fascia at its insertion to the medial calcaneal tubercle.

In our study the maximum patients were found in age group of 40-50 years and mean age was 43.25 years, females predominated and right side was found more involved.

In our study almost all patients showed significant improvement in symptoms, daily activities and quality of life. Hence corticosteroid infiltration in plantar fasciitis was, determined to be effective. Hence corticosteroid seems to be a better option. In the treatment of musculoskeletal disorders, corticosteroid injection is typically used to inhibit synthesis of arachidonic acid from membrane phospholipids, there by suppressing prostaglandin-mediated inflammation and pain. However, as described previously, histological studies indicate that plantar fasciitis is predominantly a degenerative disorder, with limited involvement of chronic inflammatory processes.

CONCLUSION

Our study showed that corticosteroid infiltration in patients with plantar fasciitis is more effective and seems to be a better option.

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