XVIII
International Congress
of the ISMST
Mendoza - April 2015

PREDICTIVE FACTORS FOR FOR RADIAL SHOCK WAVE THERAPY IN THE TREATMENT OF CHRONIC PLANTAR FASCIOPATHY

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Introduction

Plantar fasciitis is the most common cause of heel pain.

The term 'plantar fasciitis' implies an inflammatory condition. However, various lines of evidence indicate that this disorder is better classified as 'fasciopathy', as heel pain is associated with degenerative changes in the fascia.

Introduction

The safety and efficacy of ESWT (focused and radial) for chronic PF has been assessed in a variety of randomized clinical trials.

Schmitz et al. Journal of Orthopaedic Surgery and Research 2015, 8:31
http://www.josr-online.com/content/8/1/31

JOURNAL OF ORTHOPAEDIC SURGERY AND RESEARCH

REVIEW   Open Access

Treatment of chronic plantar fasciopathy with extracorporeal shock waves (review)

Christoph Schmitz[1*], Nikolaus BM Culazze[1], Jan-Dirk Rompe[2], Humberto Chaves[3] and John P Furia[4]

Introduction

However, not all patients with chronic PF respond positively to shockwave therapy.

Objectives

Describe prognostic factors in the treatment of chronic plantar fasciopathy with radial shockwave therapy to make a better selection of patients.

Hypothesis

There would be a series of prognostic factors in the treatment of chronic plantar fasciopathy with radial shockwave therapy such as:

Age, gender, body mass index (BMI), chronicity, previous physiotherapy treatments (PT), previous corticosteroids infiltrations, use of orthotics , presence of heel spur, anatomo-physiological foot alterations and bilaterally.

Materials and Methods

Study design: A prospective cohort analytic study was performed in 58 patients for each prognostic factor.

The visual analog scale (VAS) and satisfaction Roles & Maudsley scale was used to evaluate response to treatment.

Prognostic factors

- Age > 50
- Gender
- BMI altered
- More than 12 months chronicity
- Physiotherapy treatments prior present

- Corticosteroids infiltrations prior present
- Non-use of orthotics
- Presence of heel spur
- Dig or flat feet
- Bilaterally

Inclusion criteria

Patients with chronic plantar fasciopathy for at least 3 months of duration

Diagnosed by a physician

Completed the treatment

Submit the factors to be evaluated

Exclusion criteria

Patients who did not complete the treatment

Patients who did not sign the consent

Patients who did not manage to understand scales measuring results

ISMST general contraindications

Measurement Methods

Initially evaluated and followed for at least 3 months

Visual Analog Scale for the first steps in the morning with a further decrease to 60%.

I and II of Roles & Maudsley Scale

Radial Extracorporeal Shock Wave Therapy is Safe and Effective in the Treatment of Chronic Recalcitrant Plantar Fasciitis
Ludger Gerdesmeyer, Carol Frey, Johannes Vester, Markus Maier, Lowell Weil, Jr. Lowell Weil, Sr. Martin Russlies, John Stienstra, Barry Scurran, Keith Fedder, Peter Diehl, Heinz Lohrer, Mark Henne and Hans Gollwitzer
Am J Sports Med 2008;36; 2100 originally published online October 1, 2008

Study procedures

All patients were treated by the same professional and under the same protocol

Weekly, 3 sessions of 2500 impacts

8 Hz of frequency

Between 3 and 4 bar of intensity

(energy density 0.1-0.16 mJ/mm2)

Study procedures

Swiss DolorClast Classic (Electro Medical Systems)

Plus the implementation of an exercise home program

Exercises home program

Heel Pain—Plantar Fasciitis: Revision 2014

Plantar fascia, gastrocnemius/soleus stretching

Joint mobilization to improve identified restrictions in joint mobility of the lower extremity (talocrural dorsiflexion)

Soft tissue mobilization of the plantar fascia, gastrocnemius and soleus myofascia, specifically targeting trigger points and areas of soft tissue restriction

Exercises home program

Address/discuss strategies

Heel Pain—Plantar Fasciitis: Revision 2014
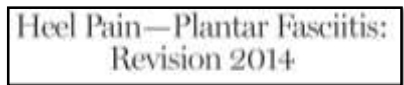
To modify relevant weight-bearing loads during occupational, recreational, or daily activities

Footwear options to mitigate commonly occurring weight-loading stresses

To gain or maintain optimal lean body mass, especially in nonathletic individuals with a high body mass index

Statistical analysis

Prognostic factors for each cohort were performed separately by EPIDAT4 system through statistical analysis.

Results

Statistically significant positive prognostic factors:

Fifty years older or more (RR: 0.42; IC: 0.19-0.85; P: 0.0024)

Female (RR: 0.23, IC: 0.09-0.6; P: 0.002)

Obesity (BMI >30) (RR: 0.35, IC: 0.17-0.71; P: 0.003)

Presence of heel spur (RR: 0.45; IC:0.24 -8.1; P: 0.02)

Results

No statistically significant differences in response to treatment:

Completed prior physiotherapy treatments (RR: 0.92; CI: 0.32-2.6; P: 0.5)

Previous corticosteroids infiltrations (RR: 1.05, IC: 0.5-1.9; P: 0.5)

Use of orthotics (RR: 1.11; IC: 0.5-2.1; P: 0.5)

Results

Statistically significant negative predictors:

High or flat foot arches (RR 2.9; IC: 1.2-7.1; P: 0.06)

Chronicity >12 months (RR: 3.7; IC: 2.1-6.7; P: 0.001)

Bilateral disease (RR: 2.7; IC: 1.6-4.2; P: 0.01)

Conclusion

The study shows with statistical support that patients respond better to treatment would be:

Over 50, female, with no more than 12 months of chronicity, unilateral disease, without anatomical and physiological foot alterations.

Conclusion

Obesity (BMI >30) and the presence of heel spur were statistically significant positive predictors

We believe this is because the main limitation of this study is that we used the same population approached from different prognostic factors to form cohorts

Conclusion

The best study design would be a multivariate analysis to assess and quantify which is the real weight of each variable.

The idea of this team is to make a multivariate study when the sampling is complete.

We also believe it is important to make the presentation of these preliminary results since they will serve to kicked a further and greater statistical power study in the future.

Conclusion

A high concordance rate when evaluating results between the VAS and R & M, so that the results of both are not discriminated found.

Thank you for your attention

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