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**002-D**


**THE USE OF A MOBILE LITHOTRIPTER IN THE TREATMENT OF  
TENNIS ELBOW AND PLANTAR FASCIITIS**

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**Objective:** To evaluate the use of the Mobile Lithotripter in the treatment of tennis elbow and plantar fasciitis. **Method:** A prospective single blind randomized trial was performed on 24 patients with tennis elbow and 23 patients with plantar fasciitis, with a mean duration of symptoms of 11 months. All patients had failed 1 or more methods of treatments namely conservative, topical NSAID, steroid injection and/or surgery. The patients were divided into treatment and placebo groups. The placebo groups received treatment with a clasp on the elbow/heel to stop penetration of shock waves. A baseline pain score was obtained using the Million Visual Analogue Scale (0-10) (1). The affected area was infiltrated with 3-5 mls of 1% lignocaine. The treatment consisted of 2000 shock waves at 2.5 bars of air pressure with a frequency of 8-10Hz. A total of 3 treatments were given at an interval of 2 weeks, each lasting for 3-4 minutes. **Results:** In the treatment groups, a final pain score at 6 months post treatment showed significant improvement (3 or more points) in 78% of patients with tennis elbow and 93% of patients with plantar fasciitis. In the placebo groups, significant improvement was seen in 1 patient (9%) with tennis elbow. The rest of the patients in the placebo group did not show improvement. This was statistically significant (chi square test). **Conclusion:** The mobile lithotripter is an effective way of treating tennis elbow and plantar fasciitis but warrants further studies on a larger scale.



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# The use of a Mobile Lithotripter in the treatment of Tennis Elbow and Plantar Fasciitis

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# Introduction

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- Lithotripsy has been used for the treatment of renal stones since early 1980's
  - Studies on soft tissues penetrated by the shock waves showed increased vascularity
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# Introduction

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- Application in fracture non-unions (Valchanau VD, 1991) and various enthesopathies
  - Till recently it's use was limited by the cost and availability of the fixed lithotripters
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# Introduction

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- Introduction of the EMS Swiss Dolorclast Unit made possible its use in treatment of tennis elbow and plantar fasciitis
  - We used a loan machine to set up a prospective single blind randomised trial for treatment of tennis elbow and plantar fasciitis
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# Patient and Method

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- Was approved by the ethics committee
  - 24 patients with tennis elbow and 23 patients with plantar fasciitis
  - M:F            31:16
  - Mean duration of symptoms was 11 months
  - Had failed one or more method/s of treatment
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# Patient and Method

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- Randomized into treatment and placebo groups
  - Base line pain score was obtained using Million Visual Analogue Scale (0-10)
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# Patient and Method

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- Affected area was infiltrated with 3-5 mls of 1% lignocaine
  - Placebo group received treatment with a clasp on to prevent penetration of shock waves
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# Patient and Method

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- Treatment consisted of 2000 shock waves at 2.5 bars of air pressure with a frequency of 8-10 Hz
  - Total of 3 treatments were given at intervals of 2 weeks, each lasting for 3-4 minutes
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# Criteria

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- Improvement of 3 or more points in the pain score was considered to be significant
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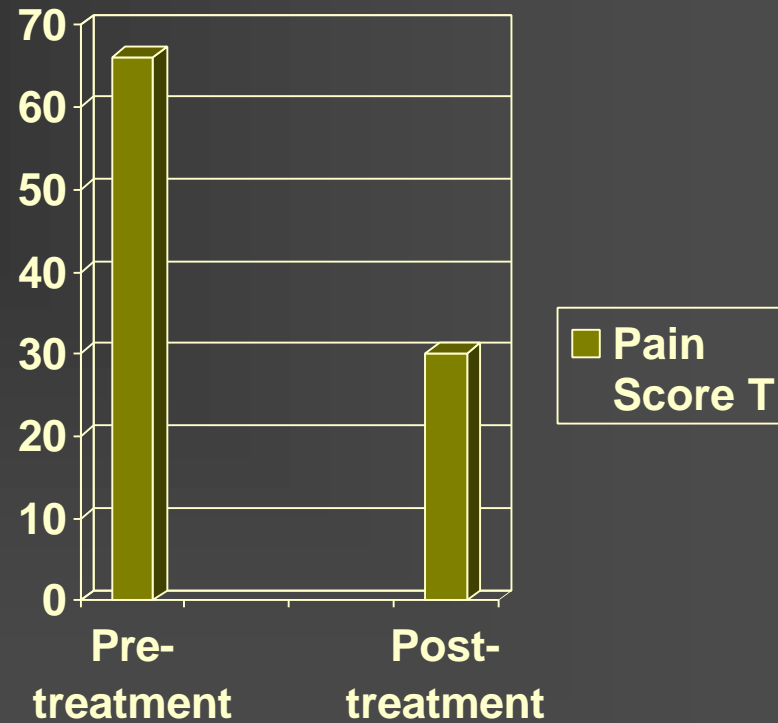
# Results

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## Tennis Elbow

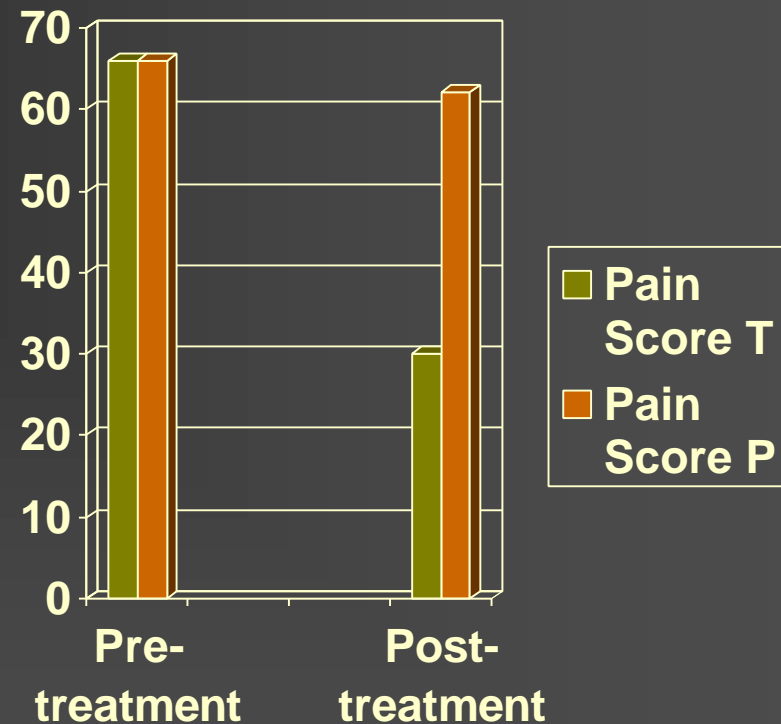
# Treatment Group

- 13 patients with pre treatment score of 6.6
  - Mean pain score 6 months post treatment 3.0
- |      |                         |
|------|-------------------------|
| ■ 10 | Significant Improvement |
| ■ 1  | No change               |
| ■ 2  | Increased pain          |



# Placebo group

- 11 patients with pre treatment score of 6.6
- Mean post treatment pain score at 6 months 6.2
  - 10 No change
  - 1 Significant Improvement





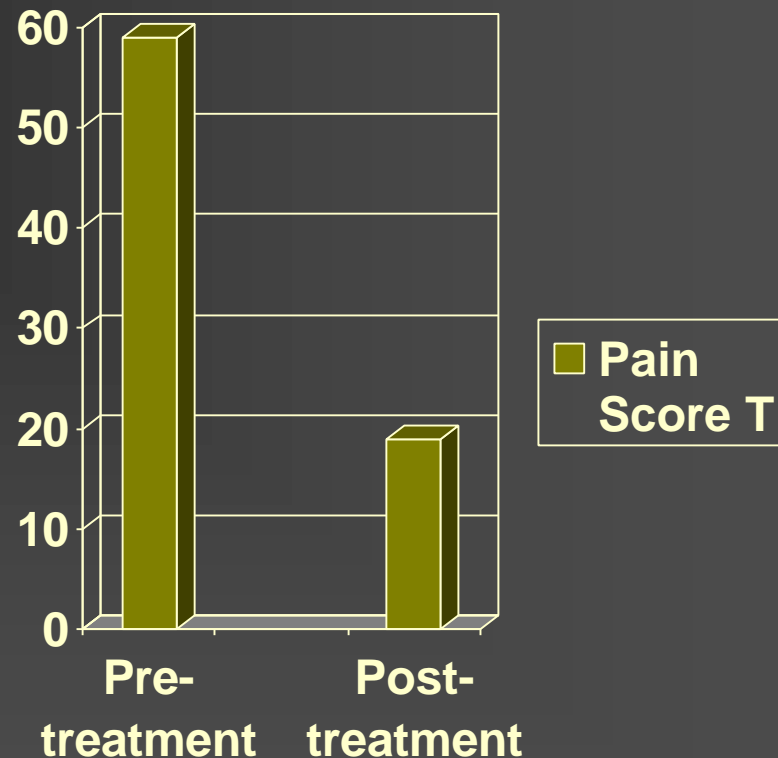
# Results

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## Plantar Fasciitis

# Treatment Group

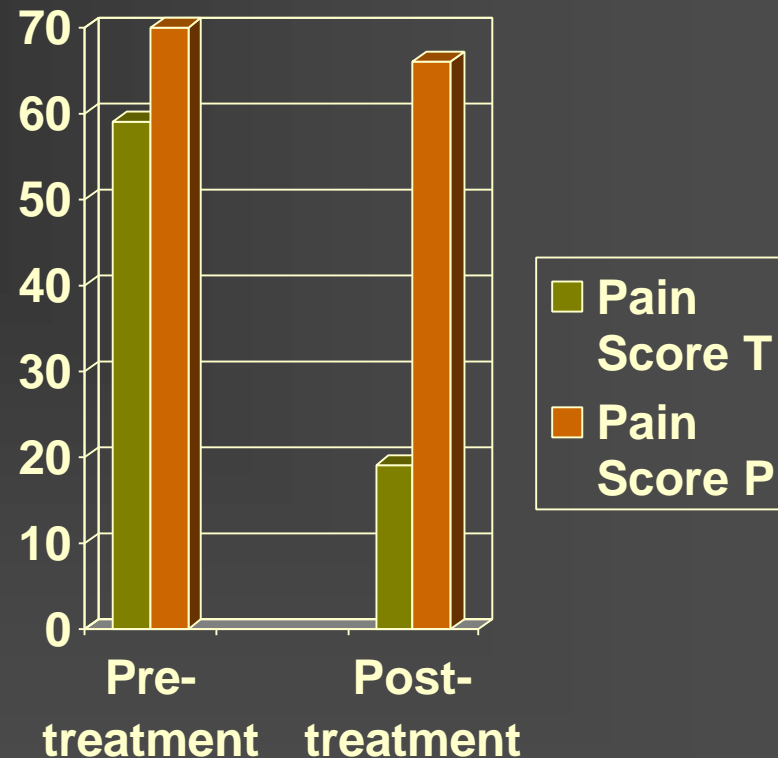
- 13 patients with a pre treatment score of 5.9
- Post treatment score at 6 months of 1.9
  - 12 Significant Improvement
  - 1 No change





# Placebo Group

- 10 patients with a pre treatment score of 7.0
- Post treatment mean pain score at 6 months 6.6
- None of the patients reported significant improvement



# Statistical significance

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- Difference was Statistically Significant using Chi Square Test
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# Conclusion

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- Radial shock wave therapy using EMS Swiss Dolorclast Unit is an effective way of treating tennis elbow and plantar fasciitis
  - Is effective in cases which have failed other treatments
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# Conclusion

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- Involves a moderate initial investment but will be economical in the long run
  - Larger studies will provide a more robust evidence
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Thank You

