

Radial Shockwave Therapy (RSWT) for the treatment of muscle injuries in athletes

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INTRODUCTION

Extracorporeal shockwave therapy (ESWT) has been applied for insertion tendopathies since 10 years. Since 2000 a new ballistic principle of ESWT, the so called Radial Shockwave Therapy (RSWT) has been introduced. The aim of the study is to evaluate the efficacy of ballistic ESWT in the treatment of muscle injuries.

MATERIAL AND METHODS

During the period September 2003 - May 2004, 24 athletes suffering from muscle injuries were presented to our Sports Injury Clinic. Their muscle injuries were ruptures due to overload (indirect trauma). All of them were classified as II degree muscle ruptures. From the 24 athletes, 12 presented with Hamstring injuries, 8 presented with adductors muscles injuries and 4 with gastro injuries. From the 24 athletes with muscle injuries, 14 were subacute (7 days to 7 weeks), and the rest 10 were chronic (more than 7 weeks). Their major complain was pain during high intensity training and disability to maximize the intensity of their training more than 80% percent evaluation was performed using:

- a) range of motion measurement of the injured side, compared to the healthy side
- b) the ability to resisted movements (knee flexion and Hip extension etc)
- c) Visual Analogue Scale (VAS)
- d) their ability to full participation in their sport and
- e) with ultrasound scan.

The Radial Shock Wave Therapy (RSWT) was applied as a treatment, and all the injuries that were subacute, were treated with three sessions with an energy flux density corresponding from 2,5 - 3 bars working pressure, working frequency 6Hz and 2000 impulses each, one session per week, using the Swiss Dolor-Clast® (EMS Kostanz, Germany). While the injuries that were in a chronic stage, were treated with 4 sessions.

Follow up was done at 1, 3, 4 and 6 weeks

RESULTS

All the athletes returned to their pre-injury participation in training activities, with equal range of motion in both sides, and without pain on resisted movements. They also did not refer pain during their full training activities.

Muscle injuries, acute, subacute and chronic, are a difficult clinical problem and the most common complication is the scar tissue formation. Many different treatments have been proposed such as injections, physiotherapy, massage. Our encouraging preliminary results of this prospective pilot study on Radial Shockwave Therapy (RSWT) for subacute and chronic muscle injuries, seems to be a safe, non invasive and effective therapy, compared to other therapies. Further follow up of these patients is needed, and further research using controlled and randomized studies.

REFERENCES

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