Physical treatment of traumatic injuries of achilles tendon in athletes

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Introduction
Injuries of Achilles’ tendon are very common traumas of muscle-tendon apparatus in sportsmen. They occur more often in persons practicing individual then group sports, with male to female prevalence of 3:1. Ageing and degenerative processes in muscles and tendons have an important influence as these injuries most often occur in the third and fourth decade of life. Rupture more often affects nondominant extremity – left in right-handed individuals and vice versa. Reciprocal ruptures occur in 25-30% of the cases. Only a small number of injuries is caused by direct application of force on the rupture. In larger number of cases injury is caused by indirect application of force.

Methods
Achilles’ tendon ruptures on three typical sites; most often at 2-5 cm above the heel bone, as that is the thinnest part of the tendon with least vascularisation. Less often the tendon ruptures on the junction with heel bone and least often is rupture of muscle-tendon junction. Ruptures may be complete and incomplete. Anamnesis and physical finding is very typical: pain, inability to walk (visible limping) and stand on one’s toes, retromalleolar haematoma, transversal concave depression at the rupture site, Thomson’s sign (the patient in ventral position with extended knee impressing the body of m. triceps brachii has no foot equinus on the injured side) and Brunel’s sign (patient in ventral position feet falling at a right angle with no physiological equinovarus). To confirm diagnosis ultrasound may be done as an additional diagnostic procedure. Treatment is usually surgical, followed by physical procedures. The aim of this study is to demonstrate contemporary physical treatment of injuries of Achilles’ tendon in sportsmen, and assess the outcome of this treatment. The study was conducted at the Special hospital “Vrnjacka Banja” in Vrnjacka Banja, from April 5th to July 5th 2004. We treated 76 sportsmen with various injuries of Achilles’ tendon. After the surgical treatment physical treatment was conducted in series lasting 10 days. The procedures included: ultrasound 1 W/cm², 5 times a minute in one series; sonophoresis of diclofen 0,5 W/cm², 5 minutes in one series; electrophoresis of KJ and novocaine, 20 minutes in one series; manual massage, 15 minutes in one series; kinezitherapy and hydrokinezitherapy with thermal mineral water from Topli izvor ("The Hot Spring") in Vrnjacka Banja. After this physical treatment edema and palpatory sensitivity to pain in the region of Ahilies’ tendon disappeared and range of motion was completely recovered.

Results
There were 64 (84,2%) men and 12 (15,8%) women in the examined population, average age being 33,3 years. After the first series significant improvement was noted in 21 (31,9%) patients. Another 10 days series was needed in 27 (47,3%) patients and 12 (15,8%) patients needed the third 10 days series of physical treatment.

Conclusion
Based on the results obtained we conclude that timely physical treatment in adequate series conducted after the surgical treatment is the method of choice for treating injuries of Achilles’ tendon. Only with such treatment injured sportsmen will adequately recover and continue exercising sports.

References