

## ON-FIELD REHABILITATION OF GROIN PAIN OF A SOCCER PLAYER: CASE REPORT

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### **Introduction**

Groin pain (GP) is caused by overworking and it is normally referred to as insertional tendinopathy. Here we present a case report of a soccer player affected by GP who was successfully treated through an accelerated aggressive rehabilitation.

### **Case Report**

A professional soccer player (25 years old, 185 cm, 75 kg) suddenly felt an acute pain while kicking a penalty at the end of a training session with his National team. He was treated with local injection of corticosteroid plus anesthetic drugs that was judged to be absolutely necessary as there was a match the next day. He came to the clinic suffering from acute suprapubic pain. The tests for rectus abdominis and adductor longus were positive. Pain was also evoked with manual pressure applied to the spinous process of the lumbar spine. Pain was not felt when resting, but it was felt in both lower limbs when running and kicking. The X-ray showed an alteration of the proximal insertion of the adductors muscles. The ultrasonography showed signs of degeneration of the proximal insertion of the rectus abdominis and the adductor longus was thick and hypoechogenic. The orthodontic assessment was also negative.

### **Rehabilitation**

The rehabilitation was made with sessions in the swimming pool, gym and on-field. The criteria for increasing the workloads were: increasing both Range of Motion (ROM) (in pool) and loads (in gym) without pain; increasing the number and the difficulty of sets and repetitions every two days. There were seven sessions in the pool and 13 sessions in the gym of which five were carried out on the same days as pool sessions. After that the patient had five accelerated on-field sessions. The criteria for going to the field were: absence of joint blocks, no pain during concentric and eccentric strengthening exercises, running on treadmill for 20 minutes at 12 km/h. The most important step of the rehabilitation process was carried out on the field and was divided into 5 phases: 1<sup>st</sup> session on the grass, running straight, ahead and backwards; stretching and ROM exercises for the hip (60 min). 2<sup>nd</sup> session on the grass, running straight (different speeds), ahead, backwards, and around in circles; stretching, and ROM exercises for the hip (75 min). 3<sup>rd</sup> session on the latest generation of synthetic grass, running straight (different speeds), ahead, backwards and around in circles, accelerations, exercises for running technique; stretching and ROM exercises for the hip; specific soccer exercises by himself with a light ball, running with the ball and slowly zigzag running (90 min). 4<sup>th</sup> session on the latest generation of synthetic grass, running straight (different speeds), ahead, backwards and around in circles, accelerations, exercises for running technique, stretching and ROM exercises for the hip, specific soccer exercises, instep or inside of the foot kicking with a light ball at not long distance, instep kicking or inside of the foot with a regular ball at a short distance; zigzag running with ball at fast speeds (105 min). 5<sup>th</sup> session on the latest generation of synthetic grass, running straight (different speeds), ahead, backwards, and around in circles, accelerations, exercises for running technique, stretching and ROM exercises for the hip, soccer-tennis exercises, specific soccer exercises by himself, instep or inside of the foot kicking for long distances, kicking into the goal, cross running, corner kicks with a standard ball, one-to-one and kicking into the goal (120 min).

3 sessions were also done with shock waves (Epos Ultra, Dornier Medtech, Kennesaw, USA) at intervals of 4 days between the 1<sup>st</sup> and the 2<sup>nd</sup>, 6 days in between the 2<sup>nd</sup> and 3<sup>rd</sup>. The 1<sup>st</sup> session included 1000 hits at the proximal insertion of right (intensity =2-3) and left (intensity =3-4) rectus abdominis; the 2<sup>nd</sup> session included 1200 hits at intensity = 3 for left and right. The 3<sup>rd</sup> session included 1500 hits at intensity =3-4 (right) and 1800 hits at intensity of 3 (left). When he left the clinic, 21 days after, the patient had complete ROM and he did not feel any pain either when resting or playing on the field.

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## The Rehabilitation of Sports Muscle and Tendon Injuries

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### **Discussion**

The patient was firstly suspected of having a muscle injury but after the patient resulted positive for the GP tests and negative for ultrasonic assessment of muscle injury, he was diagnosed with GP. The treatment was carried out considering the patient affected by non-complicated GP and muscle contracture. There were no complications during the rehabilitation period. A lot of emphasis was placed on specific rehabilitation on the field. The use of shock waves therapy was utilized for helping to stimulate the healing processes of GP.

### **Conclusion**

In cases of not complicated GP, an aggressive rehabilitation can resolve the symptoms in three weeks.

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