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Affection de l'appareil locomoteur (V)/Revue d'Épidémiologie et de Santé Publique 55S (2012) e69-e81

Р013-е

## Full thickness patellar tendon tears: Functional outcome in 24 cases

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*Keywords:* Patellar tendon; Total rupture; Surgery; Rehabilitation *Introduction.*– Patellar tendon tears are rare but very disabling. Most result from traumatic injury in active subjects. The diagnosis is essentially clinical. Plain radiography may show patella alta and ultrasound may be useful to confirm the diagnosis. MRI is contributive if the case is atypical or seen late. Our objective was to determine the functional outcome of patients operated on for patellar tendon tears.

*Materials/Patients and methods.*– This was a retrospective study of 24 cases operated for patellar tendon rupture and followed in our department for physical therapy, during the period from January 2006 to December 2011. The assessment made in after surgery, has included an evaluation of the mobility of the knee joint and quadriceps strength.

*Results.*– There were 19 men and three women, mean age 31.3 years (21–44 years). The ruptures were fresh in 18 cases and neglected in six cases. The trauma mechanism involved an eccentric muscle contraction in 19 cases, including 16 sports injuries. The remaining five cases were spontaneous tears in three patients on glucocorticoid therapy including two bilateral tears. Recovery of joint motion and quadriceps strength were good in 15 cases, fair and poor in nine cases including the spontaneous and neglected tears.

*Discussion.*– Our results are comparable with literature data and confirm the good functional results obtain in post-traumatic and fresh patellar tendon tears compared with spontaneous or neglected tears. Rehabilitation plays a very important role in function of healing time. We emphasize the importance of continuous controlled exercises to reduce the incidence of pain of the extensor system early during the rehabilitation period, and of progressive eccentric work to improve both intensity and amplitude later.

http://dx.doi.org/10.1016/j.rehab.2012.07.199

#### P014-e

# Painful accessory soleus muscle in the athletes: 3 first cases treated by botulinum toxin A

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*Keywords:* Supernumerary muscle; Accessory soleus; Botulinum toxin *Introduction.*— The supernumerary muscles, in particular the accessory soleus (AS), can become painful without clearly known etiology. Currently the only treatment is the muscle excision. The aim is to test the hypothesis that botulinum toxin A (BTA) is an effective treatment to avoid surgery.

*Material and method.*– It is a preliminary trial in 3 cases (a female and 2 males). Pain was present on exertion at the level of a small mass in the postero-medial aspect of the ankle. The diagnosis was confirmed by MRI. Additional examinations looked into the cause of the pain. The BTA injection (70 units of botox for the woman, 500 units of Dysport for the men) in two sites of the AS was guided by palpation and electrostimulation.

*Results.*– The intramuscular pressures were normal, excluding an exertional compartment syndrome. Doppler was normal. The EMG found an entrapment syndrome of the tibial nerve at the level of the AS mass only

in one patient. The exertional pain disappeared in the 3 patients. The first patient was relieved for 5 and a half years. A second injection early 2012 was relieved without recurrence since. The second patient was relieved for 10 months with two injections but the pain recurred. A new TBA injection was performed with again a good result during 3 years and a recurrence in April 2012. The last patient with the tibial nerve compression has been painless for 4 and a half months. The pain was gone for 10 months with two injections and reappeared with less intensity. With the forth injection he was relieved with 2 years of follow.

*Discussion.*—Our three cases of painful AS muscle are the first to be treated by BTA injection. These first results are interesting and must be confirmed on a higher number of patients and in a long-term. The hypothesis of the effectiveness is that BTA decreases the volume and/or the tonus of the AS.

*Conclusion.*– This treatment of supernumerary muscle could be an alternative to muscle excision and be a diagnostic aid.

http://dx.doi.org/10.1016/j.rehab.2012.07.200

#### Р015-е

# Effects of a walking training session with a walking aid robot for patients holding a total knee arthroplasty

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*Keywords:* Total knee arthroplasty; Gait; Walking aid robot *Introduction.*– Gonarthrosis is a major cause of disability in the elderly (Minns Lowe et al., 2007). It is responsible for increasing pains leading to functional impairment in walking and characterized by limping and progressive acquisition of pathological walking pattern (Haydar et al., 2003). Nowadays, one of the reference treatments for gonarthrosis is total knee arthroplasty (TKA).

The main goal of postoperative physical rehabilitation is to enable the patient to recover a walking without pain, efficient and close to the "standards". Postoperative rehabilitation techniques appear to be efficient for analytical recovery (knee flexion-extension range of motion). However, in spite of satisfying analytical recovery (range of motion, muscular strength), some patients keep a pathological walking pattern (Milner, 2009): the transfer of the analytical gains to a functional pattern such as walking is insufficient.

Assuming that this disturbed walking pattern has been initiated and reinforced during the preoperative evolution of the articular pathology, one can presume that it might persist after surgery (Guingand et al., 2003). As a consequence, the Lokomat<sup>®</sup> walking aid robot could allow a "reprogramming" to a more physiological walking pattern.

*Method.*– This cross-controlled, monocentric randomized study aims at comparing the effects of two types of rehabilitation sessions for patients after TKA surgery, by tridimensional motion analysis. On one hand, a 20-minute walking training session using Lokomat<sup>®</sup> and on the other hand, a 20-minute standard rehabilitation session.

Patients are included in the study between the 2nd and the 6th postoperative week and once they have recovered passive range of motion of  $75^{\circ}$  for flexion and  $-10^{\circ}$  for extension of the operated knee.

*Results.*– This ongoing study notices no extra benefits for the Lokomat<sup>(R)</sup> session. The inability to conduct the Lokomat<sup>(R)</sup> session at a speed close to the inner speed of the patients (uncomfortable device) might partly explain these results.

http://dx.doi.org/10.1016/j.rehab.2012.07.201