P268-e
Ankle osteoarthritis: Effectiveness of hyaluronic intra-articular injections with mesotherapy
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Keywords: Ankle osteoarthritis; Hyaluronic acid injections; Mesotherapy

Background.– Ankle osteoarthritis (AOA) produces chronic disability that directly impacts QoL. There is limited published literature relating to use of hyaluronic acid (HA) in ankle and pain relief.

Objective.– This might be the first study to access effectiveness of HA intra-articular administration and mesotherapy for treatment of AOA pain.

Methods.– Medical files over a period of 54 months of a cohort of 25 patients with AOA were reviewed. Treatment consisted of intra-articular injection of 2 cm³ of HA between talus and tibia and intradermal injections of lidocaine, piroxicam and thiocolchicoside, 10 cm³ in total. Main outcome was patient’s Pain Rating scale (PRS) before and after treatment.

Results.– Twenty-five patients included (21 females), mean age 65.5 years (± 13.57), aged 36 to 87-years-old. Ten patients treated bilaterally, 7 right side treated. Total number of treatment sessions ranged from 1 to 9 (mean 3.08).

Median values of PRS results before and after treatment were 9.5 (min. 6, max.10) and 4.5 (min. 0, max. 10) respectively, with a significant improvement (T6MM).

P269-e
Long-distance runners injuries: Treatment based on anatomobiomechanical issues
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Keywords: Runners; Injuries; Anatomy; Biomechanical; Tibial stress fractures; Medial tibial stress syndrome

Background.– Running is often recommended to preserve a healthy lifestyle. However, injuries among long-distance runners are common and increase significantly when weekly mileage exceeds 40 miles. The development of running diagnostic tests and the improved knowledge about anatomobiomechanical issues of runners’ injuries allow an earlier diagnosis and most effective treatment.

Objective.– The aim of this study is to evaluate the anatomy and biomechanics of the main long-distance runners injuries and to correlate it with treatment options.

Methods.– Review of the literature published until October 2013 in MEDLINE, Cochrane Library, EMBASE and Scopus databases.

Results.– Tibial stress fractures and medial tibial stress syndrome can often be prevented and treated by correcting biomechanical abnormalities. By the other side, popliteal artery entrapment syndrome and exertional compartment syndrome are caused by anatomic abnormalities and surgical intervention is commonly necessary.

Discussion.– Leg pain related to bone, muscles, tendons and vascular disorders is common among long-distance runners. While no clear evidence exists that these injuries can be prevented, most can be treated successfully by considering underlying anatomical and biomechanical causes.

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P270-e
Sports injuries in childhood – from the perspective of pediatric rehabilitation
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Keywords: Sports; Injuries; Children

Background.– Sports activities in children age are advised and planned with respect to the age and gender, the use of protective measures and children’s health status follow-up.

Objective.– To determine the most frequent types of sports injuries, implementation of treatment program in the acute phase and recommendations for the treatment in later phases after the injuries.

Methods.– We evaluated at University Children Hospital, children age between 7–18 years that are actively participating in different sport activities. Children were grouped into different groups regarding the type of sport activities and injuries. The treatment was composed of different physical agents and rehabilitation techniques.

Results.– Different sports have characteristic type of injuries of skeletomuscular and neurovascular systems. The most frequently diagnosed injuries are: joint distortions, fractures in the epiphysis bone growth areas, subluxations and tendinitis.

Discussion.– For recommendation of sport activity type and injuries prevention, it is necessary to know the anatomical and physiological changes during the childhood. Optimal and adequate treatment is mandatory in order to achieve complete and prompt recovery and enable timely return to sport activities. Therefore, it is important to underline the necessity of multidisciplinary approach particularly including parents and coaches.

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P271-e
Results of arthroscopic treatment of anterolateral soft tissue impingement of the ankle in athletes: A series of 22 cases
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Keywords: Ankle; Soft tissue impingement; Arthroscopy; Athlete
Objective.– Report the results of arthroscopic treatment of anterolateral soft tissue impingement of the ankle in athletes.

Methods.– A retrospective series of 22 patients, all are athletes with anterolateral ankle tissue conflict. We excluded all cases with bone or joint damage. The average age was 26 years. Patients had anterolateral mechanical pain associated with oedema following an external ankle sprain. Medical and rehabilitative treatment has been undertaken for more than 6 months before arthroscopy. No patient had ankle instability. It was no laxity on clinical examination. Computed tomography was performed in 18 cases and MRI in 4 cases. The average time between the trauma and arthroscopic was 21 months. Debridement with joint lavage has been performed arthroscopically. Rehabilitation was started on the second day postoperatively.

Results.– The average follow-up was 23 months. According to Kitaoka score, 17 patients had an excellent result, three a good result.

Discussion.– Arthroscopic treatment gave significant benefits on pain, oedema, as well as the resumption of sporting activities.

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P272-e
Rotator cuff strength weakness in recurrent anterior shoulder instability physiopathology
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Objective.– To analyze the association between isokinetic internal rotator (IR) and external rotator (ER) muscle strength and glenohumeral joint instability in patients with non-operated recurrent anterior instability.

Methods.– Thirty-seven patients and 11 healthy nonathletic subjects participated in this case-control study. Isokinetic shoulder IR and ER strength was evaluated with a Con-Trex® dynamometer, in the seated position with 45° of shoulder abduction in the scapular plane, at 180°.s⁻¹, 120°.s⁻¹ and 60°.s⁻¹ in concentric mode for both sides.

Results.– The association between shoulder instability and IR and ER strength was associated with side-to-side differences (P < 0.05). By comparisons to a control group, strength values were lower on the pathological shoulder side than on the healthy homolateral shoulder side of controls at 180°.s⁻¹ and 120°.s⁻¹ (P < 0.05). The side-to-side differences were increased when the nondominant side was involved and were decreased when dominant side was involved. We found no association between glenohumeral joint instability and IR/ER ratio.

Conclusions.– IR and ER strength weakness was associated with recurrent anterior instability and side-to-side differences depended on the dominance of the side involved.

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P273-e
Surgical Achilles tendon tears using platelet-rich fibrin matrices and conventional methods: Kinetics and kinematics evaluation
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Keywords: Gait analysis; Stiffness; Physical activity; Platelets; Growth factors; Surgical repair; Achilles tendon

Background.– The relationship between surgical technique and ankle biomechanical properties following surgery for acute rupture of the Achilles tendon has not yet been fully investigated.

Objective.– To evaluate the clinical outcomes in patients with platelet-rich matrices and conventional techniques during Achilles tendon surgery.

Methods.– Twelve patients who underwent surgical repair of a complete Achilles tendon (AT) rupture were divided into two groups, conventional open repair of the Achilles tendon group (noPrP) and platelet-rich fibrin matrices group (PrP). VISA-A, questionnaire was used. Calf circumference was measured, Gait analysis (ELITE system BTS) and ultrasound evaluation (GE Medical Systems) were performed and AT diameter was measured (ATTD). The follow-up was at 6 months.

Results.– Differences were found between ATTD prp and ATTD noPrP (P = 0.029) and in the stiffness in the hopping trial (P = 0.001).

Conclusion.– Based on this study, we suggest that PrP surgery represents potential for enhanced healing and functional recovery.

Further reading
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P274-e
The effect of rehabilitation on range of motion and muscle strength in patients after surgical reconstruction of the anterior cruciate ligament
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Keywords: Anterior cruciate ligament; Ligamentoplastika rehabilitation

Background.– In recent years, an increasing number and severity of knee ligament injuries, and most of the anterior cruciate ligament (ACL). Treatment is conservative and surgical.

Objective.– The aim of the study was to determine the effect of rehabilitation treatment to increase the range of motion in the operated knee and rough driving force (GMS)clinical characteristics.

Methods.– The study included 56 patients, mean age 27 ± 5-years-old, male. Diagnosis NMR knee. Patients were treated artoskopijskom ACL reconstruction. All subjects started with the rehabilitation treatment after 4 weeks of surgical intervention. Measuring the range of motion in the operated knee and GMS upper knee musculature was performed before inclusion in the rehabilitation treatment, after 3 weeks and after 6 weeks of rehabilitation treatment.

Results.– After 3 weeks of intensive rehabilitation treatment, increasing range of motion in the operated knee 45 ± 2.5 degrees (P < 0.05),GMS clinical characteristics of grade 3 ± 0.5 MMT-in (P < 0.05) after 6 weeks of range of motion of 95 ± 5 degrees (P < 0.01),GMS clinical characteristics for a 4 ± 0.5 MMT-in (P < 0.05).

Conclusion.– Rehabilitation treatment has a beneficial effect on functional recovery.

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P275-e
Association of peroneus longus tear and common fibular nerve palsy in a soccer player
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Keywords: Peroneus longus; Peroneal nerve; Injury; Sports; Rehabilitation

Background.– Peroneus longus (PL) tear concomitant to common peroneal nerve (CPN) palsy is very rare. We report here an association of PL injury with a CPN paralysis in a soccer player.

Observation.– A 35-years-old soccer player presented with a 5-day history of pain of the left lower leg with difficulty in walking following a direct then an indirect (forcibale inversion of the left ankle) trauma. The examination revealed ecchymosis and oedema, equinus of the ankle, pain and tenderness on palpation of the lateral muscular lodge, paresis of dorsal flexion and eversion, decrease of sensory modalities at fibular nerve territory and a tinel sign on the level of...