

Lumbar disc herniation in an 11-year-old gymnastic player

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Keywords: Lower back pain; Lumbar disc herniation; Gymnastics

Background.— Pediatric disk herniation should be considered in the differential diagnosis of the child with back pain. In children, the average interval between onset of symptoms of disc herniation and diagnosis is 10 months, compared with 4.7 months in adults.

Observation.— A 11-year-old gymnastic player admitted to our hospital with lower back pain. She claimed that she had been enrolled in intense gymnastic lessons for the last year. On physical examination the movement of the lumbosacral spine were painful. She reported reproduction of pain at 30 degrees for left and 60 degrees for right while straight leg raising test. The manual muscle testing of both upper and lower extremities, sensation examination and deep tendon reflexes were normal. MRI showed grade I spondylolisthesis of L5-S1 vertebrae and a large extrusion of the L5-S1 disc. With the diagnosis of lumbar disc herniation we arranged 15 sessions of electrotherapy and physical therapy. Her pain was not decreased after conventional treatment and she was sent to surgery.

Discussion.— It should always be kept in mind that sports or positions which are challenging lumbar spine like gymnastics may cause intervertebral disc overloading and may trigger lumbar disc diseases.

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The analgesic effect of mesotherapy on musculoskeletal pain: Our 12 months clinical experience

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Keywords: Mesotherapy; Musculoskeletal pain; Analgesia

Background.— Mesotherapy is a minimally invasive technique used to inject active substances into the superficial layer of the skin. The main clinical advantage of mesotherapy is the obtained local pharmacological effect with avoidance of high systemic drug concentrations.

Methods.— In the last 12 months we treated 18 patients with tennis elbow (4), golf elbow (3), low back pain (6) and shoulder pain (5). All patients received a combination of 3 substances (0.9% sodium chloride, lysine acetyl salicylate and lidocaine 2%). Pain intensity was measured at baseline and after the completion of 7 weekly sessions with visual analogue 1–10 scale.

Results.— The mean value of pain intensity at baseline was 7.8. After the completion of the 7 weekly mesotherapy sessions, measurements presented a mean value of 4. The major improvement was observed in patients with low back pain and the lowest in shoulder pain patients.

Discussion.— Mesotherapy has a significant analgesic effect on musculoskeletal pain, were the long-term systemic administration of NSAIDs may provoke serious complications.

Further reading

Kanodia A, et al. Perceived benefit of complementary and alternative medicine (CAM) for back pain: a national survey. *J Am Board Fam Med* 2010;23:354–62.

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Posterior dislocation of the shoulder associated with a proximal humerus fracture, about one case; interest of a rehabilitation program

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Keywords: Posterior dislocation of the shoulder; Humeral prosthesis; Rehabilitation program; Biomechanic

Background.— Posterior dislocation of the shoulder associated with a proximal humerus fracture is rare. The posterior dislocation is unknown in 2/3 of the cases and its diagnosis is often late with a shift to a shoulder, which is stiff and bit functional.

Observation.— Mr. F., 23-years-old, top athlete, right-handed, victim during a football game from a direct trauma on the right shoulder causing a proximal humerus fracture with a posterior dislocation of the shoulder that was not initially diagnosed. The evolution was unfavorable with necrosis of the humeral head and the need for implementation of a humeral prosthesis associated to the repair of the rotator cuff 3 months later. Early rehabilitation targeted gain of range of motion of the inter-scapulo-serratic and inter-serrato-thoracic spaces to compensate the stiffness of the glenohumeral joint as well as muscle strengthening targeting stabilizers of the scapula (trapezius, serratus anterior) with significant improvement in functional scores (DASH and Constant) but with a resumption of sport at a high level compromised.

Discussion.— Glenohumeral posterior dislocation must be systematically sought in proximal humerus fractures. Early diagnosis is the key to a good prognosis. Specific rehabilitation, based on biomechanics allows recovering the function.

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Isokinetic testing of muscle strength of rotator cuff muscles in volleyball players

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Keywords: Isokinetic dynamometer; Rotator cuff; Shoulder instability; Volleyball

Background.— Shoulder is the most mobile joint in our body. Its static stability is enabled by its joint surface and joint capsule while the dynamic stability is provided by rotator cuff muscle. Their weakness can cause upper movement of the humeral head with withdraw of the deltoid muscle and repeated microtrauma in volleyball players that lead to overuse syndromes in that joint.

Objectives.— The purpose of our work was to analyze the strength of the shoulder muscle throughout proportion of the internal and external rotators and the values of peak torques of professional volleyball players compared to the non-active sport group.

Methods.— We have tested 14 Croatian professional volleyball female players as well as 15 healthy female volunteers, both groups average age 21. The requirement for the both groups was that they do not have any shoulder pain while participating in the test. The research was done on the isokinetic dynamometer Cybex 300 with the Humac programme.

Results.— Our research pointed out that there is a difference between the first and the second group.

Discussion.— Results are compatible with similar researches; further studies are required primary for prevention.

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One-year follow-up of platelet-rich plasma to treat chronic upper patellar tendinopathies

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Keywords: Platelet-rich plasma; Jumper's knee; Tendinopathy; One-year follow-up

Background.— Infiltration of PRP may be used as a recent therapeutic option for chronic tendinopathies.

Objectives.— The aim of the current study is to evaluate the clinic and the return to sports activities in patients with chronic upper patellar tendinopathies 1 year after 1 infiltration of PRP.

Methods.— The follow-up of 20 subjects who benefited from 1 infiltration of PRP was made before infiltration, after 3 months and 1 year after infiltration; it was made as follow: VAS, IKDC and VISA-P scores. Moreover, they had to answer an information questionnaire concerning their life and sports activities.

Results.— Seventy percent of patients reported a favourable evolution with decrease of pain, 10% did never report any improvement and 20% were treated surgically. Eighty-seven percents returned to sports activities without any pain, and 50% of them recovered the same sport level. VAS has significantly ($P < 0.0001$) dropped, IKDC significantly improved ($P = 0.0007$) and VISA-P also significantly increased ($P = 0.009$) over the follow-up of 1 year.

Discussion.— This study confirms that a local injection of PRP coupled with a program of eccentric rehabilitation through a chronic Jumper's knee, improves painful symptoms and the functionality of the subjects' knee up to a follow-up of 1 year.

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Osgood-Schlatter and patellar instability: Fortuitous association or complication?

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Keywords: Osgood-Schlatter; Patellar instability

Introduction.— Osgood-Schlatter disease is an anterior tibial osteochondrosis, benign pathology, common in sportive boys. Outcome without sequelae is the rule but it can be made to the functional impairment.

Observation.— Patient 21-years-old, athletic, with pain at the anterolateral aspect of the left knee transferor at rest, progressing to the onset of pain down the stairs and in the transition from prolonged sitting to standing and causing the patient to stop all sports. The clinical examination showed a positive Zohlen painful with palpation of a projection at the anterior side of the knee. Radiographs objectified patella alata, irregularity of the posterior surface of the patella, and the presence of exostosis at the tibial. Outcome was marked by the resumption of sporting activity after medical and physical treatment well conducted.

Discussion.— Some authors report that the finding of a ball too high seems to be related to the onset of Osgood-Schlatter, others consider patellar instability a complication of the disease.

Conclusion.— Osgood-Schlatter disease is a benign whose support differs depending on the importance of clinical and radiological signs.

Further reading

Léonard JC, et al. Complications of Osgood-Schlatter disease: the traps of an illness deemed banal. *Sci Sports* 1995;10:95.

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Rehabilitation to effort of obese: Contribution of isokinetic muscle strengthening

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Keywords: Isokinetic; Obese; Muscle strengthening; Rehabilitation to effort
Objective.— Assess the contribution of isokinetic muscle strengthening in obese adults.

Methods.— A prospective study of 40 obese patients: One group (G1) who underwent a re-entrainment on a treadmill associated with isokinetic muscle strengthening exercises of the spine and knees and a group (G2) who received only a entrainment on a treadmill.

Results.— After the re-entrainment protocol, there was an improvement in all anthropometric parameters evaluated (weight, body mass index [BMI], fat mass [FM] and lean body mass [MM]) as well as all cardiovascular parameters (heart rate at rest and during exercise, systolic and diastolic blood pressure at rest and effort, maximum workload and metabolic equivalent). This improvement was significantly greater in the G1 than in the G2. There was also an improvement in the parameters of the isokinetic muscle strength in both groups namely the peak torque of the flexors and extensors of the spine and knees. It was more significant in the G1.

Conclusion.— Our study confirmed the beneficial effect of the combination of isokinetic strengthening and aerobic treadmill work in obese adults.

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Interest of an intensive isokinetic rehabilitation treatment in the case of a persistent functional deficit 4 years after a shoulder stabilization surgery

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Background.— Shoulder stabilization surgery associated with a specific rehabilitation program allows most of the time the recover of a mobile and painless joint. But, return to same level sport practice concerning, depending on the studies, failure rates between 10% up to 20% were reported, due to pain or joint/muscular limitations.

Observation.— We present the case of a 31-year-old soldier, treated by an anatomical reconstruction of the rotator cuff and a coracoid transfer for an anterior shoulder dislocation and a rotator cuff tear that occurred during a parachute jump incident. Four years after the surgery, persistence of joint limitations and an intern rotators muscular strength deficit (35% low speed concentric and 50% eccentric) and extern rotators (15% low speed concentric, 30% high speed and 13% eccentric). Intensive isokinetic rehabilitation program in our technical platform resulted in a near-total muscular and joint recover.

Discussion.— This case report shows the interest of isokinetic associated with a classic shoulder rehabilitation program in order to finalise the rehabilitation and to achieve the muscular and joint objectives.

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Example of the interest in a diagnostic approach of the use of isokinetics

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