

PD.11.030

Ultrasound Evaluation of Transient Synovitis of the Hip in Children - Pictorial Essay

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Introduction: Diagnose transient synovitis of the hip in children is a challenge for the clinician. Both symptoms and physical examination findings are not pathognomonic for diagnosis. It commonly occurs in children 3-6 years of age. The child feels pain in the anterior hip and thigh, can affect the knee. Patient usually limps or cannot support the lower limb in the soil. Often occurs after a viral context.

Methods Involved: Ultrasound is performed with patient in the supine position, with the hip joint in a neutral position.

Discussion: Ultrasound is useful in diagnosis due to its high sensitivity in the detection of intraarticular fluid, as well as differentiates the appearance of joint fluid, usually anechoic in cases of transient synovitis.

Conclusion of the Presentation: Ultrasound is a good method for the diagnosis of transient synovitis, because of its benefit cost-ratio and easy to perform in children.

TL.11.001

Sonographic Evaluation of Cross Sectional Area of Multifidus Muscle in Patients With Low Back Pain: Case-Control Analysis of the Effects of Stabilization Exercises Among Chronic Low Back Pain Patients in Kano, Nigeria

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Brief Description of the Purpose of the Study: To investigate the effect of stabilization exercise on cross sectional area (CSA) of lumbar multifidus muscle in chronic low back pain patients using high resolution ultrasound scan.

Methods: 27 subjects with low back pain were allocated randomly into experimental and control groups (with 13 and 14 participants, respectively). The physical characteristics of the subjects were measured and recorded. Stabilization exercise was administered to experimental group and Sham intervention to control group. High resolution ultrasound scan was used to measure CSA of multifidus muscle of the two groups prior to and after the intervention in both groups. Pain and functional disability levels were measured before and after intervention in both groups using visual analogue scale.

Main Results: Ultrasound scan indicates a statistically significant improvement in CSA of multifidus muscle with associated reduction in pain and improved functional ability in the experimental group above the control.

Importance of the Conclusions: Lumbar stabilization exercise increases the CSA of lumbar multifidus muscle, with subsequent influence on the associated pain and functional disability in chronic LBP patients.

TL.11.004

Exploration of the Biological Relationship of Bicipital Peritendinous Effusion With the Clinical, Demographic and Sonographic Findings of Shoulder Joints

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Brief Description of the Purpose of the Study: Evidence of the relationship between bicipital peritendinous effusion (BPE), and shoulder

joint derangement was scanty. The aim of this study is to determine the magnitude of association between BPE and the demographic, clinical and sonographic findings of shoulder joints.

Methods: We investigated the sonographic reports in the participants with suspected shoulder disorders who received ultrasound examinations from January 2011 to January 2012. The amount of BPE was graded as absent, mild, moderate and severe by measuring its thickness (1, 1-2, 2-3, >3 mm). The associations between BPE and sonographic abnormalities were examined with logistic regression adjusted by age, gender, affected side and clinical diagnosed frozen shoulder.

Main Results: Among 907 enrolled shoulders, the prevalence of absent, mild, moderate and severe BPE were 64.1%, 17.8%, 10.4% and 7.7%, respectively. Using the participants without BPE as the reference, we found that frozen shoulder was related to mild BPE (odds ratio [OR] 2.39, 95% confidence interval [95% CI] 1.05-5.44). Regarding sonographic findings, biceps tendinopathy, subdeltoid bursitis and supraspinatus full thickness tear had significant associations with the entire spectrum of BPE, while subscapularis tendon tear was significantly associated with moderate to severe BPE (OR 2.50, 95% CI 1.30-4.82 and OR 3.16, 95% CI 1.52-6.58, respectively). Severe BPE status was associated with supraspinatus tendon articular-sided partial thickness tear (OR 18.12, 95% CI 4.54-72.32), posterior recess effusion (OR 8.50, 95% CI 1.45-49.53) and biceps medial subluxation (OR 8.05, 95% CI 1.93-33.62).

Importance of the Conclusions: Our study indicated that BPE was related to shoulder joint derangement and the magnitude of association varies according to different grades of BPE.

TL.11.005

Quadriceps Architecture Evaluation With Ultrasound, in an Elderly Population

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Brief Description of the Purpose of the Study: Aging is associated with a progressive loss of neuromuscular function that often leads to a progressive disability and loss of independence. Degenerative processes begin to limit autonomy and functionality. Those processes is sarcopenia, defined as a gradual decline in muscle mass. The aim of this study was to evaluate the muscle architecture, in an elderly population that practice exercise and a sedentary group, with the purpose of investigate the process of sarcopenia.

Methods: Elderly people were evaluated, this evaluation was performed with an ultrasound, with 12 Mhz transducer. We evaluate both quadriceps muscles in contraction and in rest. A questionnaire was also performed for each individual in both samples. Informed consent was done.

Main Results: Our results showed some differences in the muscle architecture in both groups. The main alteration was in the pennation angle that was higher in the exercised group. These differences altered the muscle performance.

Importance of the Conclusions: Muscular architecture is affected with disuse and sarcopenia. It is well known a relationship between performance, contractions and muscle architecture. Our results suggested that the atrophy directly affect muscles by reducing the volume and pennation angle. Thus, the effectiveness of strength training improves the structural and functional parameters of the skeletal muscle of elderly.