

ECHOGRAPHIC STUDY OF THE RARE PATHOLOGY OF THE INGUINAL REGION IN CHILDREN

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Abstract: This study aims at investigating the rare pathology cases of the inguinal region in children. For this purpose, we used echography as a study method. This study is retrospective, the presented cases being studied during the period 2006-2009. The patients selected for this study went to specialist doctors within the Clinical Hospital for Children of Brașov. This study included the children who had pains at the level of the inguinal area, accompanied by limp or functional impotence and also children who come with palpable formations at the level of the inguinal region. We aimed at observing the presence of certain collections at the level of the coxofemoral articulated cavity, thickening of the coxofemoral articular cavity, the presence of certain adenopathies, venous patency, compressibility and also other structure modifications that might occur at the level of the adjacent musculature of the inguinal region.

Rezumat: Studiul de față își propune investigarea cazurilor de patologie rară a regiunii inghinale la copii. În acest scop s-a folosit ca metodă de studiu ecografia. Studiul are caracter retrospectiv, cazurile prezentate fiind urmărite în decursul perioadei 2006-2009. Pacienții selectați pentru acest studiu s-au prezentat la medicii specialiști din cadrul Spitalului Clinic de Copii Brașov. Studiul a inclus copiii care prezentau durere la nivelul regiunii inghinale însoțită de șchiopătare sau impotență funcțională și de asemenea copiii care s-au prezentat cu formațiuni palpabile la nivelul regiunii inghinale. S-au urmărit prezența unor colecții la nivelul cavității articulare coxofemorale, îngroșarea sinovialei articulației coxofemorale, prezența unor adenopatii, patenta venoasă, compresibilitatea precum și anumite modificări de structură ce pot să apară la nivelul musculaturii adiacente regiunii inghinale.

INTRODUCTION

Inguinal region represents an anatomical area frequently involved by the child's pathology. (4,7) The diseases at this level are different, the highest ones in terms of frequency being the peritoneal-vaginal channel pathology, inguinal hernias, undescended testicles, spermatic cord cyst and the hydrocele. (5,8) We focused on the assessment of the different types of rare diseases of the inguinal region of the children. The anatomical structures that are described, at this level, are represented by the coxofemoral articulation with its osseous elements, synovial capsule, iliopsoas muscle and the musculature of the superior portion of the thigh. (3,6,9) Additionally to these ones, we mention also the femoral nerve, the blood vessels; the femoral pack and the ganglions of the inguinal chain. The anatomical fixed points of the inguinal region are constituted out of the inguinal channel, of the inguinal ligament and of the femoral triangle. The complex pathology of the above-mentioned anatomical region requires a correct diagnose of the medical diseases, the imaging method being the most precise one. In order to protect the health of the child, echography is used for diagnosing this pathology, as a non-invasive imaging method. (1, 2).

MATERIAL AND METHOD

Within our study, we examined the presence of certain collections at the level of the coxofemoral articular cavity, the thickening of the synovial of the coxofemoral articulation, liquidian collections in the psoas major, the presence of the adenopathies at the level of these regions, venous patency and

the compressibility degree at the level of the ordinary and superficial femoral vessels and also at the level of the great saphenous vein and of the small saphenous vein. We also took into account the presence of certain modifications concerning the musculature adjacent to the inguinal region, structure modifications, loosing the fasciculate aspect and echogenicity modifications. We studied the sonomorphological aspects of the inguinal adenopathies that were examined by means of the imaging method.

We included in the study the children who come to the Clinical Pediatrics Hospital of Brașov for pains in the inguinal region, together with limping and functional impotency, and also the presence of palpable inguinal formations. We excluded of the study the children presenting peritoneal-vaginal channel pathology or irradiated pain, under the context of the urinary, pelvic or gastrointestinal tract pathology.

For fulfilling the herein study, we used the non-invasive imaging method, the echography, accomplished by means of an Esaote GPX apparatus with a linear probe having the frequency of 7,4 and 10 MHz.

RESULTS

According to the cases investigated by means of the imaging method, we found the pathological aspects concerning the transitory hip synovitis, hip arthritis and psoas muscle bursitis, inguinal adenitis and profound venous thrombosis. The case of the hip transitory synovitis was found by means of an echography of a four years old patient who presented inguinal pain, accompanied by limping, with negative acute

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inflammation samples. For this purpose we carried on the echography of the soft parts, by means of the longitudinal scanning at the level of the previous capsule-synovial omentum. (Figure 1)

Figure no. 1. Echography. Femoral head, anterior saggital section

The hip arthritis and the psoas bursitis were noticed by means of an echography in the case of a six years old boy, who was limping, who had atrocious pains at the level of the right inguinal region, fever accompanied by leukocytosis of 24.000 /ml, CRP : 12 mg%, articular puncture with negative culture and ragocytes, negative haemoculture. The echography aspects of the hip arthritis and of the psoas bursitis were emphasized by means of the anterior longitudinal scanning, by comparison. (Figure 2, figure 3).

Figure no. 2. Echography. Anterior saggital hip section – affected part

Figure no. 3. Echography. Anterior saggital hip section – healthy part

Suppurated inguinal adenitis was noticed by means of an echography in the case of a four years old girl. She presented an inflammatory tumefaction at the level of the right inguinal

region. The echography sections fulfilled provided the possibility of noticing the effraction of the periadenitis capsule and a collection within the adjacent subcutaneous tissue (figure 4, figure 5). Out of the puncture liquid culture, a staphylococcus aureus was isolated.

Figure no. 4. Echography. Transversal inguinal section

Figure no. 5. Echography. Transversal section in evolution; Periadenitis occurs

Profound femoral venous thrombosis was noticed in the case of an eight years old girl, hospitalized for abdominal pains, pain at the level of the inguinal region accompanied by limping and a dehydration syndrome. The thrombophily tests emphasized a primary antiphospholipidic syndrome. (Figure 6)

Figure no. 6. Echography. Section at the level of the common femoral vein



CONCLUSIONS

Due to the medically ascertained fact that reveals a variety of the pathology that occurs at the level of the inguinal region, echography, as a non-invasive method, is useful for the diagnosis, in the above mentioned context. By means of this imaging method, we can notice the rare pathological aspects that occur at the level of the inguinal region. From this type of view,

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echography is used, as it allows the approach without any risks, rapidly, exactly, in different circumstances, of the exploring region. By its non-invasive character, echography provides the possibility of repeating the examination, this being useful for the supervision of the patients and also for monitoring their evolution but also for having a feedback to the administrated therapy. We have to mention that the main idea of this study is that the inguinal region may represent the origin of different diseases, some of them being very rare. For this purpose, the echographic approach must be systematic, in order to emphasize all the anatomical structures that constitute the inguinal region.

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