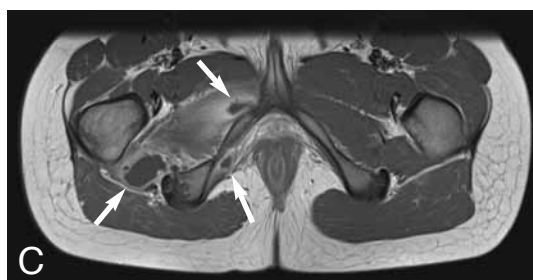
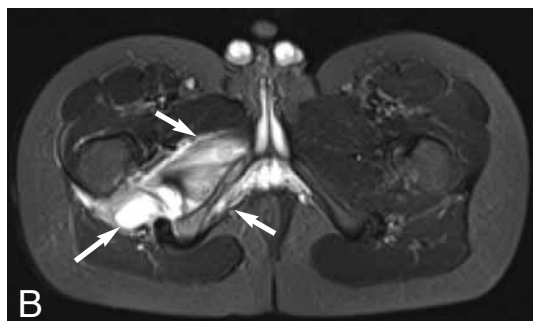
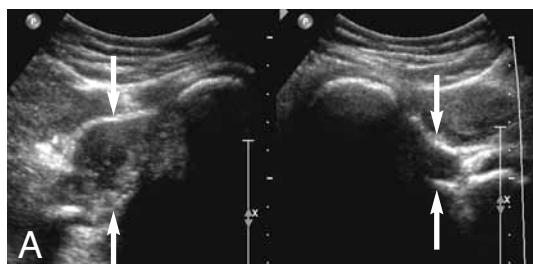


IMAGES IN CLINICAL RADIOLOGY



Unexpected pyomyositis of right buttock

S. Van Nieuwenhove, F. Haven, L. Ghijselings, J. Pringot, P. Matthys¹

A 11-year-old boy was admitted to the emergency department complaining of pain in the right hip, fever and had developed a noticeable limp since one week. He had fallen on his buttock in the swimming pool a few weeks before. Physical examination revealed pain at the mobilisation of the right hip, without limitation of movement. The laboratory data showed increased value CRP (154 mg/l) and leukocytosis at 11300 WBC/ μ l.

X-ray of the right hip was normal. Ultrasound of the right hip, performed to exclude arthritis, didn't show any intra articular fluid. Careful anamnesis oriented examination towards his right buttock. The study of the postero internal muscles of the buttock revealed right-left asymmetry. There was heterogeneous tumefaction of the right quadratus femoralis muscle with central hypoechoic collection compatible with an intramuscular abscess (Fig. A, axial view, white arrows, GT: greater trochanter, I: Ischium, GM: Gluteus Maximus muscle). MRI of the pelvis showed an hyperintense aspect of the right quadratus femoralis, obturator internus and externus muscles on T2-weighted sequence. It confirmed the presence of multifocal fluid collections hyperintense on T2-weighted sequence (Fig. B, axial view, white arrows) and hypointense with an enhancing rim on T1-weighted sequence after Gadolinium (Fig. C, axial view, white arrows). Aspiration of the target collection of 2,5 cm in diameter under MDCT guidance showed culture positive for Multi Sensitive *Staphylococcus aureus*. The boy was hospitalized in the pediatric department during a week with intravenous antibiotherapy. The US control 3 weeks after antibiotics *per os* didn't show any residual muscle abscess.

Comment

Pyomyositis is the primary acute bacterial infection of the skeletal muscle. It usually affects a group of muscle and mostly the lower extremities. Endemic in tropical countries, it is quite uncommon in temperate areas with an incidence of 1/3000-1/4000.

It is commonly associated with immunodeficiency or trauma. The causative agent is *Staphylococcus aureus* in 85%-90%. The clinical history can be divided in three stages. The first stage passes usually unnoticed and consists of general symptoms for a period of two weeks. During the second (or suppurative) stage, the diagnosis is often made. The fever is higher and local symptoms are predominant with swelling, tenderness and myalgia. In the last stage, systemic manifestations are severe and may lead to septic shock with renal failure.

Ultrasound shows an enlargement and heterogeneous echo texture of the muscle with or without a central hypoechoic fluid collection (abscess). On CT, pyomyositis is defined as an enlarged muscle with heterogeneous attenuation and a central fluid collection with rim enhancing. The pyomyositis in MRI is described as increase signal intensity on T2-W images corresponding to muscle edema and a central low signal with a hyperintense enhancing rim on T1-weighted images after Gadolinium.

MRI is the best technique to determine the localization and extension of abscess.

In summary, a child complaining of painful hip, limp, and fever doesn't always have arthritis. For this reason, ultrasound keeps some advantages ; it can exclude intra articular fluid and can be useful in the suppurative stage of pyomyositis (for guided puncture and follow up).

Reference

1. Gonzalez Moran G., Garcia Duran C., Albinana J.: Imaging on pelvic pyomyositis in children related to pathogenesis. *J Child Orthop*, 2009, 3: 479-484.

¹. Radiology Department, Cliniques de l'Europe, Brussels, Belgium.