

CASE REPORT / OPIS PRZYPADKU

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PAIN CAUSED BY THE ILIOPSOAS MUSCLE INJURY. CASE STUDY

**DOLEGLIWOŚCI BÓLOWE SPOWODOWANE URAZEM
MIĘŚNIA BIODROWO-LĘDŹWIOWEGO. OPIS PRZYPADKU**

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S u m m a r y

The injuries of iliopsoas muscle are seldom described in the medical literature. The following report presents the case of a female patient who suffered from the iliopsoas injury. During the examination it was found out that the injury had been the result of falling off a chair. The initial localization of the pain source was difficult as the attempts in moving the

leg resulted in radiculalgia. Imaging examination excluded skeletal injuries and vascular anomalies. The iliopsoas injury was localized along with intramuscular hematoma, both of which were responsible for the pain. Applying complex preventive treatment resulted in improvement of the patient's condition and stopping the pain.

S t r e s z c z e n i e

Uszkodzenia mięśnia biodrowo-lędźwiowego są rzadko poruszonym tematem w doniesieniach fachowej literatury medycznej. W pracy przedstawiono przypadek chorej, która doznała urazu mięśnia biodrowo-lędźwiowego. W wywiadzie stwierdzono, że przyczyną powstania dolegliwości był upadek z krzesła. Wstępne zlokalizowanie źródła dolegliwości bólowych było utrudnione, gdyż przy próbach ruchu kończyną dolną pojawiał się ból o torze

korzeniowym. Badania obrazowe wykluczyły uszkodzenia szkieletowe oraz anomalie naczyniowe. Zlokalizowano uszkodzenie mięśnia biodrowo-lędźwiowego z towarzyszącym krwiakiem śródmięśniowym, które było odpowiedzialne za obecność opisywanych dolegliwości bólowych. Wdrożone kompleksowe leczenie zachowawcze poskutkowało poprawą stanu pacjentki i całkowitym zniesieniem dolegliwości bólowych.

Key words: injury, iliopsoas muscle, intramuscular hematoma, radiculalgia, muscle rupture

Słowa kluczowe: uraz, mięsień biodrowo-lędźwiowy, krwiak śródmięśniowy, ból korzeniowy, uszkodzenie mięśnia

INTRODUCTION

Iliopsoas (musculus illiopsoas) is the combination of three muscles: psoas major, psoas minor and iliacus. The psoas major is one of the elements of the posterior abdominal wall. The psoas major begins with two layers; superficial and deep part. The superficial part originates from the lateral surfaces of the last thoracic

vertebra, lumbar vertebrae I-IV, and from neighbouring intervertebral discs. The deep part originates from the transverse processes of lumbar vertebrae I-V. The psoas runs downwards, forwards and sideways, to its insertion on the lesser trochanter of the femur.

The psoas minor muscle is located anterior to the psoas major. It originates from the vertical fascicles

inserted on the last thoracic and first lumbar vertebrae. Then it runs down and sideways, and attaches to the deep surface of the iliac fascia, iliopectineal arch and the iliopectineal eminence. The *psaos minor* is an *inconstant* muscle.

The iliacus fills the iliac fossa. It arises from the iliac crest to both anterior inferior iliac spines. It ends with common tendon with the muscular lacuna on the lesser trochanter of the femur [2].

The iliopsoas is a strong flexor of the hip joint and the particular muscles have different movement abilities. The *psaos major*, due to its construction, gives the ability of higher amplitude movement. The iliacus can generate higher strength of the movement. The iliopsoas is important for walking. Iliopsoas palsy disables moving, thus it is considered to be one of the most important muscles in the human body [12,13].

Although injuries of the iliopsoas muscle occur quite seldom, the development of imaging techniques enables better and more accurate diagnosis of any pathology [9]. Acute iliopsoas muscle pain is usually caused by one of the three kinds of pathologies. It can either be ruptured belly of the muscle and the intramuscular hematoma [3,8], abscess [16] or the inflammation of the muscle insertion on the lesser trochanter [9]. The iliopsoas injuries mostly occur to sportsmen, especially to cyclists [1], football players [7] or those doing taekwondo [6].

CASE STUDY

Female patient, aged 58, was brought to hospital at night by the pre-hospital emergency. The reason for calling the ambulance was paresis and left leg dysaesthesia. The symptoms occurred the previous day in the evening. The patient suffered from groin- and left hip pain. During the examination at the Pre-Hospital Emergency Clinic the patient claimed that the symptoms occurred after she had fallen off a chair.

The imaging examination of the pelvis, spine and hip joints did not confirm any skeletal injuries as the cause of the pain. On the following day the patient came back to the hospital, suffering from increased left sciatic nerve pain. She was admitted to the Department of Neurosurgery and Neurotraumatology in order to undergo further examinations. It was noticed that the external rotation of the lower limb caused strong pain. Lifting an extended leg was hardly possible, as the movement caused radiating pain in the whole leg originating from the loins, similar to sciatic neuralgia.

During the examination no pathological changes were found in the integuments. The decrease of patient's haemoglobin count led to further search for the source of bleeding. A CT angiography of the pelvis minor did not show any vascular pathology. A bulge of the left iliopsoas was noticed, which was the sign of the intramuscular hematoma. The patient received complex preventive treatment, including physiotherapy procedures, Kinesiotape applications and pharmacotherapy. It resulted in the pain disappearance and no neurological deficits were observed.

CONCLUSIONS

Owing to the low number of reports concerning the iliopsoas injury, creating the full picture of clinical disorders may be difficult. The ailments caused by the iliopsoas injuries may vary. In order to obtain the full picture, further research is needed. It is often sufficient to apply preventive treatment [10]. In addition to this, applying complex physiotherapy, depending on the patient's state, relieves the pain quickly and completely. [4, 5, 14]

Koszewski W. in „Bóle kręgosłupa i ich leczenie”, when discussing peripheral nerve injuries, mentions the iliacus syndrome as one of the possible ways of causing pain based on lower limb peripheral nerve compression [11].

Smreczyński A. Et al. in „Mięsień biodrowo-lędźwiowy. Część 1. Metodyka badania i anatomia ultrasonograficzna” tried to create an optimum USG examination technique of the iliopsoas muscle. The scientists, having compared the results of the ultrasonographical examination, decided that in majority of the examined patients there was a possibility of identifying the iliopsoas muscle. This allows using USG as one of the examination methods when examining the changes in the muscle [15].

Paruzel M. et al. in „Zróżnicowany obraz kliniczny naderwania brzośca mięśnia biodrowo-lędźwiowego: ilustracja trzech przypadków oraz przegląd piśmiennictwa” present three case studies of patients suffering from pain caused by changes in the iliopsoas muscle. The scientists say that injuries are one of the ways of damaging the muscle. Such a mechanism does not fully correlate with lateral rotation of the leg, which is supposed to be conducive to injuring the belly of the iliopsoas muscle. The authors also add that based on the contemporary medical literature, the

sports in which there is strong pressure on the muscles of the pelvic floor predestine to iliopsoas injuries [10].

Smereczyński A. et al., in „Mięsień biodrowo-łędźwiowy. Część 2. Patologie mięśnia w diagnostyce ultrasonograficznej”, analysed 18 case studies and name pathologies of the iliopsoas muscle. The most common changes included abscesses, hematomas and metastatic disease. The authors notice that USG examination and the clinical data are valuable as a means of examining the changes in the iliopsoas muscles [16].

CLOSING REMARKS

1. The mechanisms of changes in the iliopsoas muscle that cause non-specific pain have not been fully researched yet.
2. The clinical pictures of patients are significantly different, but there also exist some common characteristics of the disorders caused by changes in the iliopsoas muscle.
3. Using the available imaging examination methods and the clinical data allows a full diagnosis of the non-specific pain caused by the changes in the iliopsoas muscle.

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