Case Report

Hip Pain of Unusual Origin in a Patient with a Limp. Case Report and Review of the Literature

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Abstract

Introduction: Psoas pathology is highly correlated with hip dysfunction, giving rise to pain and limping and should be considered in hip pathology.

Case report: Female patient, aged 63, with unremarkable clinical history, presented with a limp and right hip pain since 4 months earlier. The clinical examination did not find any impairment in the range of motion of the hip joint; there were no signs or clinical symptoms other than weakness in hip flexion (psoas) of grade 3/5.

The pelvic and hip radiographs did not find evidence of a skeletal pathology; a pelvic MRI was subsequently performed, revealing a significant loss of muscle mass of the right psoas, with superior slices indicating the possible presence of a right renal mass compressing extrinsically the muscle.

Conclusions: Psoas weakness, an infrequent condition of hip pathology owing to the anatomical characteristics of the muscle, should be included in the differential diagnosis of extra-articular problems of the hip. In patients with a limp with few symptoms and clinical weakness in hip flexion, intra-abdominal processes, both benign and malignant, should be considered.

INTRODUCTION

Hip pathology encompasses a group of lesions the most frequent of which are femoroacetabular impingement [1,2] and labral lesions [3,4]. However, there are many extra-articular hip lesions that can cause pain and limping and that should be considered in the differential diagnosis [5]; for example, pathology of the psoas. The psoas is the principal hip flexor muscle, the pathology of which is highly correlated with hip dysfunction [6], giving rise to pain and limping. Frequently, clinical symptoms result from muscle hypertonia, muscle retraction or hip snapping [7,8]. Weakness of the psoas is not a usual cause of hip dysfunction but can give rise to difficult-to-treat gait disorders [8].

We present the case of a patient with an infrequent cause of hip pain and limping secondary to weakness of the psoas by extrinsic compression of the muscle intra-abdominally.

CASE REPORT

The female patient, aged 63, with unremarkable clinical history, presented with a limp and right hip pain since 4 months earlier. The clinical examination did not find any impairment in the range of motion of the hip joint; there were no signs or clinical symptoms other than weakness in hip flexion (psoas) of grade 3/5.

The pelvic and hip radiographs did not find evidence of a skeletal pathology; a pelvic MRI was subsequently performed, revealing a significant loss of muscle mass of the right psoas, with superior slices indicating the possible presence of a right renal mass compressing extrinsically the muscle.

Table 1: Summary of known extrinsic compression pathology of psoas related to psoas weakness.

<table>
<thead>
<tr>
<th>Anatomical compression</th>
<th>Secondary compression (more common)</th>
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<tbody>
<tr>
<td>Malignant Renal mass</td>
<td>Bleeding – haematoma (warfarin and oral anticoagulants)</td>
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<tr>
<td>Urinoma</td>
<td>Chemotherapy – radiotherapy (2ary myositis)</td>
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<tr>
<td>Severe lumbar osteoarthritis</td>
<td>Postoperative spine surgery</td>
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<tr>
<td>Anquilopoietic spondilitis</td>
<td></td>
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<tr>
<td>Spontaneous retroperitoneal haematoma (Waterhouse-Friederichsen syndrome)</td>
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</table>
The procedure, performed in April 2016, allowed visualization of a hydronephrotic atrophic kidney. Total right nephrectomy was performed laparoscopically. The surgical sample was sent for pathological analysis, which found chronic pyelonephritis with secondary hydronephrosis without clinical signs of malignancy or tumoral lesions.

Post-operative evolution was satisfactory. In the final check-up at 6 months post-operatively, psoas weakness had partially improved, with limp reduction and muscle weakness grade 4/5 though the patient could perform everyday activities without limitation.

**DISCUSSION**

The case is of particular interest because the hip pain and limp are secondary to a process at a distance from the hip that had an effect on one of the principal flexors of the hip, namely the psoas muscle.

We found only one article in the literature of a benign pathology with associated psoas weakness [9-10]. Articles referring to psoas weakness due to compression identify the weakness as secondary to tumoral pathology or compressive retroperitoneal pathology [11] such as haematomas secondary to anticoagulant drugs or bleeding diathesis rather than a benign entity such as hydronephrosis secondary to chronic pyelonephritis.

Hip and inguinal pain and weakness of the peripheral hip musculature, principally the gluteal muscles, are usual clinical manifestations of degenerative processes of the hip joint and of intra-articular pathology such as femoroacetabular impingement or hip dysplasia. The psoas muscle can be affected by several pathologies [10,12-14,6,15]; however given its anatomy and innervations, the clinical finding of weakness in association with marked atrophy is not common.

Florczyn ska et al [11] presented a case report of a patient with severe myositis with severe weakness of the hip flexors following adjuvant treatment (radiotherapy and chemotherapy) for advanced rectal carcinoma, i.e. the weakness was secondary to treatment for malignant disease.

The majority of cases described in the literature are also associated with the ingestion of drugs, usually anticoagulants such as warfarin or dicumarol [16], which cause retroperitoneal bleeding that can result in secondary weakness of hip flexors by extrinsic compression (Table 1).

Unlike literature-referred cases, the onset of the pathology in our case was characterized by mild, insidious pain with limping; the renal lesion was discovered during additional investigations, with no other clinical findings in the abdomen. These images showed compression of the psoas muscle and its significant atrophy in comparison to the contralateral psoas.

Limping is highly related to pathology of the inferior extremity and, in greater numbers, with pathology of the hip; this is why we must exercise caution when assessing the hip and perform a meticulous rigorous examination to confirm articular pathology and to rule out an extrinsic primary pathology that can lead to a clinical picture that does not correspond with a precise diagnosis. In these cases combined with presence of objectively measured weakness of hip flexion, an extrinsic pathology affecting the psoas should be suspected.

**CONCLUSIONS**

- Psoas weakness, an infrequent condition of hip pathology owing to the anatomical characteristics of the muscle, should be included in the differential diagnosis of extra-articular problems of the hip.
- In patients with a limp with few symptoms and clinical weakness in hip flexion, intra-abdominal processes, both benign and malignant, should be considered.

**DISCLOSURES**

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

**REFERENCES**


Seijas et al. (2017)

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