

## **Iliopsoas Syndrome: A Frequently Overlooked Phenomenon**

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### **ABSTRACT**

Iliopsoas syndrome is a functional problem of iliopsoas muscle which is usually overlooked despite to the careful physical examination. Iliopsoas syndrome may occur due to the shortening, weakening or spasm of iliopsoas muscle. It may present clinically as reflected pain in pelvic, thoracolumbar, lumbosacral, sacroiliac, hip, groin or anterior thigh region, disorders of gait and/or posture problems. Here in this case report, I aimed to present a 33 year old woman with iliopsoas syndrome which was overlooked for five years and to review literature accompanied with this patient, and also call attention to different nomenclature in literature and contribute to creating a common nomenclature for this disease.

**Keywords:** Functional problem, iliopsoas, iliopsoas syndrome, psoas syndrome

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## **INTRODUCTION**

Iliopsoas syndrome (IPS) is defined as a functional problem of iliopsoas muscle that is presumed to be common in population but the exact incidence is unknown (1, 2) and is thought to be usually overlooked despite to the careful physical examination (1-4). Also, it does not show any finding in radiologic assessments (1). IPS may occur due to the shortening, weakening or spasm of iliopsoas muscle (1). It may present clinically as reflected pain in lumbosacral, pelvic, hip (5), groin region and disorders of gait (1, 6) and/or posture problems (6). Because of this variable and non-specific clinical presentation, IPS should be kept in mind in the differential diagnosis of pain in that region.

In this case report, I aimed to review the literature accompanied with a patient that overlooked for five years, also call attention to different nomenclature in literature and contribute to creating a common nomenclature for this disease.

## **CASE REPORT**

Thirty-three year old female patient complained of ongoing pain in the right groin area since five years that have admitted to various clinical departments. Patient was investigated for disc hernia, non-specific low back pain, salphengitis, urethral stone, inguinal hernia, tendinosis, bursitis, but no problem was found to explain her pain on the physical examination, laboratuary tests and imaging studies. As a treatment option, non-steroidal anti-inflammatory drug was started several times. During the periods of drug use, there was partial reduction in pain. But after she completed the medication treatment, her complaints was arised again soon. About three years ago, still referred for the same complaint to the physician and a Doppler ultrasound examination was requested. This imagine modality revealed that

saphenous vein has been identified as > 9 mm. She underwent surgery because of that it was assumed that the pain originated from this dilated vein.

After this surgery, there was no change in her complaints. She was admitted to sports medicine clinic with right inguinal pain, having problem to be in full erect posture especially after a long time sitting position and low back pain that sometimes occurs. Trauma, bowel dysfunction and anxiety disorder problems were excluded after obtaining the patient history. Bilateral lower extremities strength examination, deep tendon reflexes were found to be normal. The findings identified by the examination are presented in Table 1.

Table 1: The findings identified by the examination

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<ul style="list-style-type: none"><li>• tenderness (myofascial trigger points/MTP) with deep palpation in iliopsoas muscle trace</li><li>• hyperlordosis</li><li>• left pelvic anterosuperior tilt</li><li>• tenderness in left hip piriformis trace</li><li>• bilateral positive Thomas test that more evident in the right</li><li>• right pelvic pain in the end degrees of range of motion in all directions</li></ul>
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Organic problems were excluded with imaging studies and laboratory tests besides this iliopsoas shortening was found that is a functional problem which was diagnosed with Thomas test. So the patient was diagnosed with IPS.

The treatment of the patient was planned with a combination of daily stretching exercises to do at home, dry needling therapy with kinesiotape application in total 4-8 sessions at intervals of five days.

The patient was advised to score her pain before and after dry needling therapy and kinesiotape application each session with Visual Analog Score (VAS) (Table 2).

Table 2: VAS Scores

	<b>Before application</b>	<b>After application</b>
1. Session (0th day)	8,7	3,1
2. Session (1th day)	4,3	1,4
3. Session (10th day)	2,1	0,3
4. Session(15th day)	0,8	0

In all applications; A position was applied to the patient in order to obtain a stretched iliopsoas muscle (Figure 1). MTPs were found with palpation. 13 mm acupuncture needles were applied to the trigger point with dry needling technique (Figure 2a). Application continued for about 15 minutes by moving the needles with the hand to create stimulus for three minute intervals. Once dry needling application is completed, the patient rested for 15 minutes. Then kinesiotape application was made (Figure 2b). In the fifth day, the patient was instructed to remove kinesiotape and after taking a shower, she was told to come for another session. In addition, iliopsoas muscle stretching exercises were shown. These exercises have been prescribed as 5 times per day and lasting 20 minutes. The patient was advised to rest in the position that iliopsoas muscle is in relaxed state as shown in Figure 3 when she needed.

As it is seen in the Table 2, the treatment was ceased at the fourth session because of the significantly absence of pain after the third session. Also patient did not need treatment anymore and wished to terminate the therapy. The patient questioned about complaints by contacting with her at the three and six months after completion of therapy. The patient said that she had no complaint in both interviews.



Fig 1: Position for iliopsoas muscle stretching.



Figs 2a and 2b: Dry Needling and Kinesiotape applications.



Fig 3: Position for iliopsoas muscle relaxing.

## **DISCUSSION**

Variable and non-specific clinical variation of the IPS requires a differential diagnosis with many diseases that may cause pain in the lumbosacral and pelvic region. Therefore, a better understanding of the IPS will contribute to the early diagnosis and lead to the appropriate treatment of these patients. In this case report, it is aimed to get better understanding of this disease and to review all aspects of the disease. The iliopsoas muscle is tight in many people (2) and psoas muscle tends to shorten along time like other postural muscles (1). Thomas test is used to assess spasm/shortening/flexibility of iliopsoas muscle (2, 4, 7, 8). IPS begins with bilateral muscle tightness in early period, later it is assumed that being more evident on one-side (9). In the present case report, as supporting this hypothesis, bilateral iliopsoas muscle spasm/shortening was found predominantly on the right side.

Tight iliopsoas muscle or strength imbalance between iliopsoas muscles may cause hyperlordosis (6), vertebral column deviation/rotation to the tight side (2, 5), posture problems (6) or gait disorders (1, 10). In our patient hyperlordosis and anterosuperior pelvic

tilt identified at left side as postural problems but vertebral column deviation/rotation or gait disorders were not observed.

It is reported that shortening, weakness or spasm without a structural change in iliopsoas muscle may present as (1) abdominal and/or pelvic, lumbosacral (2), sacroiliac joint, opposite side gluteal region (2, 5) and same side thigh pain. Like this, the main complaints of my patient were lumbosacral region pain, tenderness in piriformis trace in left gluteus region and also unilateral right inguinal pain. On the other hand, any structural change in the muscle was not found on the MRI examination of our patient. Tufo et al. (2) reported that this syndrome may also present with delay to become in erect posture or not to be able to stay in full erect posture. In my patient the complaint of difficulty in become erect posture after sitting position was observed as consistent with the definition of Tufo et al. (2).

IPS is usually overlooked (1, 2). Lijec Vjesn (1) explains the source of overlooking of this problem with five reasons: 1-symptoms of this problem are non-specific and may present with many variations, 2- functional problems are not investigated as a source of pain, 3- iliopsoas muscle is a deep-seated muscle, so inspection of muscle is not possible 4- lack of knowledge about examination of iliopsoas muscle, 5- functional problems don't give any positive findings in radiologic assessments. I also think that the definition of this problem with different names by different authors has also contribute to the inadequate awareness and usually overlooking of this phenomenon. I see that these symptoms are entitled as "Iliopsoas Muscle Syndrome. Functional Disorders: Shortening, Spasm and Weakness of a Structurally Unchanged Muscle" (1), "Psoas Syndrome" (2), "Chronic Psoas Syndrome" (4) and "Iliopsoas Myofascial Dysfunction" (3) in literature. Even "Iliopsoas Syndrome" and "Iliopsoas Bursitis" were used as synonymous names in literature (11). I firstly recommend to entitle these overall symptoms as "syndrome" for eliminating this chaos. Indeed, syndrome is defined as "clinical demonstrations formed by certain signs (symptoms)" (12). Psoas major and

iliacus muscle join above the L5-S2 vertebrae level under the inguinal ligament to form iliopsoas muscle (13, 14). Later, iliopsoas muscle tendon inserts into the femur trochanter minor. Although the muscle which is evaluated by the Thomas test is iliopsoas muscle, we cannot evaluate the iliopsoas muscle directly. So I believe that defining this syndrome as “Iliopsoas Syndrome” is more accurate than “Psoas Syndrome”.

Organic problems that may cause pain in this region such as low back pain (2), colon cancer, diverticulitis, femoral bursitis, coxarthrosis, prostatitis, salpingitis, ureter stone (2), discal hernia (2) iliopsoas muscle infection, neoplasm, hemorrhagic problems, tendinosis, bursitis, avulsion fractures, tendon rupture and muscle contusion must be excluded before the diagnosis of IPS (2, 13).

Both of dry needling (3), relaxation exercises (3) and osteopathic manipulation techniques (2, 4) may be used with quite satisfactory separately or together in IPS treatment (2-4). I used the combined treatment of dry needling technique, kinesiotape application and stretching exercises together in the treatment of my patient.

## **CONCLUSION**

In conclusion, I think that entitling all of these symptoms as “Iliopsoas Syndrome” will be more accurate. IPS should be in differential diagnosis of especially in low-back and pelvic pain and problems that may cause pain in inguinal region. The palpation of iliopsoas muscle in which it is in relaxed state and evaluation of hip flexion with Thomas test should also be a part of this examination. And also I wish to emphasize and share the idea that IPS diagnosis is overlooked generally.



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