Pain Relief after Mobilization of the Symphysis Pubis in a 22-Year Old Male Football Player with Remaining Groin Pain after Conventional Care

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Abstract

The incidence of athletic groin pain is 3-25% of all sports-related injuries. A complex anatomy, overlapping diagnoses, heterogeneous terminology, and lack of clinical guidelines complicate the treatment.

The 22-year old male football player described in this study had suffered from groin pain for almost a year. Per oral analgesics had no effect, plain radiography was negative, and physical therapy according to the diagnosis “adductor tendinitis” did not improve his condition. Movement restriction test of the adductor muscles was negative, why treatment was focused on the focal pain area; the symphysis pubis. Manual mobilization of the right pubic bone yielded a distinct and stable improvement in pain and physical function, which leaded the working diagnosis. After four treatments the patient’s night pain and ability to run, climb stairs, and play football were restored, his locking/clicking sensations and medication ceased, and he was able to return to football. At follow-up 8 years later, he was still symptom-free.

The etiology and symptoms of the common diagnosis 'adductor tendinitis' and dysfunctions of the pubic bones are similar, yet the lack of clarity around the diagnosis adductor tendinitis -thus the basis for treatment - has been highlighted in earlier research. According to a thorough literature search "symphysis pubis dysfunction” guided the care of the patient. The present study suggests that the described manual diagnostic and treatment approach may provide quick, significant and non-expensive benefits for certain patients with groin pain.

Level of Evidence: Level IV.

Keywords: Athletic groin pain; Orthopedic outpatient; Muscle energy technique

Introduction

Groin pain is common in sports that involve movements such as kicking, turning, twisting, acceleration and a sudden change of direction [1,2]. The literature reports an incidence between 3% to 25% of all sport-related injuries [3], and in male football players the incidence is approximately 13% per season [4]. Athletic groin pain has several different possible underlying etiologies, like trauma, repetitive overloading and pathology, and its treatment is often challenging and long lasting, with long absence from sport for the athlete [5,6]. One reason for this is the lack of a uniform terminology among clinicians referring to the same musculoskeletal conditions with different definitions [7,8]. Another reason is the numerous differential diagnoses with overlapping and similar symptoms [5,9], and frequently found asymptomatic radiological findings [10-13]. Often the patient is unable to precisely identify the site of his or her pain or to recall any mechanism of injury, rather they complain of pain with gradual onset [14,15]. It appears that the main etiology to various groin injuries is an increased tension across the pubic bone caused by imbalances between adductor-abdominal muscles, which may result in injury/pain from differing structures, such as bones, muscles, tendons and ligaments [6,7,14,16-20]. The best evidence-supported modality is exercise therapy, but the available evidence lacks a standard protocol regime and the rehabilitation takes time [21-23]. Adductor tendinitis is a common diagnosis in athletic groin pain, but there is a lack of clarity related to the diagnosis, with only few studies of high quality, and the basis for treatment
has been highlighted [24]. Positive outcomes from a few studies on manual therapy for pain in the symphysis pubis in pregnant women have been published previously [25], yet biomechanical dysfunctions need standardization of terminology, an agreed definition and reliable assessments of the conditions [26], and it appears that a biomechanical dysfunction of the symphysis pubis has attended limited knowledge in the medical literature [27,28].

Materials and Methods

Patient history

The case of the present study is a healthy, male 22-year old football player who practiced 6 days a week, and suffered from groin pain since almost a year. The pain had an insidious onset with no known trigger or trauma, and increased during-or after-football exercising. Shifting from one side to the other and particularly shooting a “broadside” was the movement that most of all provoked the pain, which could also be experienced if he was sitting his legs crossed. His pain was unilateral (right side), localized to the groin, and occasionally it radiated down into the inner thigh. It could also be experienced when climbing stairs, up- or downwards, running on uneven ground and when stretching the adductor muscles. The first diagnosis was “adductor tendinitis” and the patient was prescribed pain relieving drugs and NSAID and referred to radiography and physiotherapy. Since the pain persisted, the patient had to quit football and finally had a referral to a hospital’s orthopedic outpatient clinic.

Findings

The patient’s adductor muscles on the right side were stiffer than on the left, the insertion in the pubic bone was painful upon palpation and several myofascial trigger points were found there. Resistance testing of the adductor muscles was negative. The focal pain area was in the surrounding of the right pubic tubercle, superiorly to the attachment of the adductor muscles, and there was a palpatory notion of mal alignment in the symphysis pubis (the right pubic bone more superior than the left).

Diagnostic process

The patient suffered neither from any neurological or urological signs, nor pain at rest. Plain radiography was negative, and since resistance testing of the adductor muscles was negative, any skeletal injury, rupture or tendinitis was not deemed plausible. The fact that the patient was more or less pain-free except from when performing a shear movement, the pain being very distinct, and sometimes accompanied by a painful locking sensation and a clicking sound, resembled the clinical experience of a dysfunctional joint. The hypothesis of a symphysis pubis dysfunction was confirmed when the patient’s identical pain was found upon palpation, and increased with inferior provocation of the basis of his right pubic bone [29].

Treatment

The right pubic bone was mobilized in an inferior direction, with the patient supine, and the leg of the affected side off the bench. The therapist supported the opposite side of the pelvis, and pressed the patient’s right leg (hip extension) until an anterior motion was felt at the opposite side. Then, the patient was instructed to gently elevate his right leg towards the ceiling, as the therapist offered resistance with her hand placed on the patient’s affected thigh (i.e. a light isometric contraction). The contraction was maintained for 3-5 seconds, then, the patient was asked to fully relax so that the affected side slid towards the floor, and the therapist pressed it into further leg extension. There was a distinct improvement in pain in conjunction with this mobilization.

The patient had altogether four treatment sessions during three weeks, and was advised to continue with stretching exercises (contract-release of the adductor muscles in their most prolonged position).

Results and Discussion

On the fourth (final) treatment session no pain was experienced on palpation of the right tubercle, and the patient experienced that the locking sensations and clicking sound had disappeared. Four weeks after the last treatment session he was significantly improved. He could run, play football and climb stairs without pain or discomfort or pain at night; he did not consume any pain relieving drugs, and was able to return to pre-injury sport activity after a total of five weeks. At follow-up 12, 24 and 52 weeks later the patient was still free from symptoms, and after 8 years he stated that he had not experienced any
Table 1: The patient's improvement from baseline to the 8 year follow-up. Visual Analogue Scale [47]; Perceived recovery [48].

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Baseline</th>
<th>3 w.</th>
<th>5 w.</th>
<th>12 w.</th>
<th>24 w.</th>
<th>52 w.</th>
<th>416 w.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS (worst pain)</td>
<td>95</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Physical function (locking feeling/clicking sound)</td>
<td>Yes</td>
<td>Some</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Perceived recovery</td>
<td>N.a.</td>
<td>A little</td>
<td>Very much</td>
<td>Very much</td>
<td>Very much</td>
<td>Very much</td>
<td>Very much</td>
</tr>
<tr>
<td>Night pain</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Physical activity (running, climbing stairs)</td>
<td>Very restricted</td>
<td>A little restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
</tr>
<tr>
<td>Playing football</td>
<td>N.a.</td>
<td>N.a.</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
<td>Not restricted</td>
</tr>
</tbody>
</table>

The patient's improvement from baseline to the 8 year follow-up. Visual Analogue Scale [47]; Perceived recovery [48].

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Reliability and responsiveness of three different pain assessments. J

Capturing the patient's view of change as a clinical outcome measure.