Abnormally Widened Symphysis Pubis of a Child: Nontraumatic and with No Associated Metabolic Abnormalities

Travma ve Eşlik Eden Metabolik Anormallik Olmaksızın Bir Çocuğun Anormal Genişlemiş Simfizis Pubisi

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ABSTRACT

Widened symphysis pubis is not commonly seen but may be seen in such a variety either during growing period or incidentally. There are normal variations in the size of the symphysis pubis throughout childhood. However, as orthopaedic proffesionals, we should be aware of the normal variation in size of the symphysis pubis and that trauma is not the only cause of an abnormally widened symphysis pubis. This report describes an idiopathic widened symphysis pubis unrelated to any other congenital pathology or trauma and emphasizes the normal variation of the symphysis pubis and the need for clinical importance.

Kew Words: Symphysis pubis,paediatrics

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ÖZET

Simfizis pubisin anormal genişlemesi çok sık görülmez, ancak büyüme periyodu sırasında bir çeşitlilik olarak ya da tesadüfen görülebilir. Çocukluk boyunca simfizis pubis genişliği için normal kabul edilen çeşitlilikler de vardır. Ancak ortopedi profesyonelleri olarak bizler simfizis pubis genişlemesinin normal varyasyonlarından haberdar olmalı ve genişlemenin sadece travma kaynaklı olmadığını bilmeliyiz. Bu yazı diğer doğumsal hastalıklar ya da travma olmadan ve sebebi belli olmaksızın genişlemiş bir simfizis pubis hakkındadır ve simfizis pubisin normal varyasyonları hakkında bilgi verirken bunun klinik önemini de vurgular.

Anahtar Sözcükler: Simfizis pubis, çocuk hastalıkları

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INTRODUCTION

The symphysis pubis is a nonsynovial diarthrodial joint that is found between the two pubic bones.A thick intrapubic fibrocartilaginous disc is seen between two layers of hyaline cartilage with the inferior pubic ligament providing most of the joint's stability (1).The natural development of the symphysis pubis occurs from the primary ossification centre of the superior pubic ramus between the fourth and fifth fetal months, so at birth the symphysis pubis is 9–10 mm in width and has thick cartilaginous endplates. Through childhood these endplates gradually decrease in size so that by midadolescence the symphysis pubis has achieved its overall adult size (1,2).

CASE REPORT

A 8-year-old boy was admitted to the hospital after a simple fall while playing in the playground.He was complaining about right hip pain.Hip ROM is slightly limitated and mildly painful.There was no pain on the symphisis pubis by palpation.A pelvic X-ray was performed and a widening of the symphysis pubis measuring 27 mm without an asymmetry of the sacroiliac joints was seen but no overt fracture identified neither for the hips nor for the pelvic bones.The pubic bones were described as separate with poorly delineated cartilage.A diagnosis of a congenital anomaly was made. Pelvic X rays of his one brother and 2 sisters were seen and they were normal.The parents were unknown.The overall development of the child,BMI,bone age were all normal according to his age.All biochemical investigations were normal.Pelvis MR reveals a normal cartilage of the symphysis pubis.

DISCUSSION

Since in this age group catilage thickness over the bones is high by means of volume, MRI is more relevant than X ray during investigation.MRI images are seen in Figure 2.From normal data available, the maximum distance between the two pubic bones does not exceed 10mm at any age, with mean adult measurements of 5.9±1.3mm in males and 4.9±1.1mm in females (2). The greatest fall in width of the symphysis pubis occurs in the first year of life with a range 5–9mm and beginning to plateau at the age of 4 years with a range of 4–8mm (2,4).The sex difference noted in adults is not found in children. Therefore, a pubic symphysis width above 8.4mm or below 5.2mm is considered to be abnormal (3).The transition to the 'adult pelvis' has been described to occur when the triradiate cartilage has closed and occurs at 14 years for boys and 12.5 years for girls. This transition is also significant with reference to pubic diastasis in paediatric pelvic trauma with the incidence found to be 3.5–5% in the immature compared with 44% in the mature group (6,7).

In our case, this 8-year-old boy sustained a simple fall injury with pain in the right hip on clinical examination including stress testing of the pelvis and so a pelvic radiograph was performed (5). The pelvic radiograph revealed a symphysis pubis measurement(3) of 27 mm this width was measured in the center of the pubic symphysis' superoinferior dimension (ie, halfway from either the superior or inferior margin of the pubic symphysis) rather than the expected 4–8 mm. Since he has no pain or tenderness on symphysis pubis and is able to fully weight bear the diagnosis of an isolated congenital pubic diastasis was made. Congenital widening of the symphysis pubis can occur with normal ossification and so represent true widening and those with defective ossification producing apparent widening. Such a congenital cause is associated with other pathologies such as exstrophy of the bladder (66%) and epispadias accounting for another 24% that this patient is free of them. Of the acquired causes hyperparathyroidism and trauma are the most frequent (2,3).

Figure 1. Antero-posterior radiograph of pelvis showing widening of the symphysis pubis (27.25 mm)

In this case there was spina bifida as a congenital disease not the others but no metabolic problems associated with the widened symphysis pubis.Since the symphysis pubis is widened bladder sagging or short internal urethra is expected leading to frequent recurrent urinary tract infections.This was asked and the answer was " Yes". Except from trauma some infectious and inflammatory conditions also widen the symphysis pubis lile pubic osteomyelitis and some forms of osteitis pubis.None of them were relevant with our case.

This case highlights the differential diagnoses of a widened symphysis pubis in the paediatric patient and more importantly that this can occur unrelated to trauma.

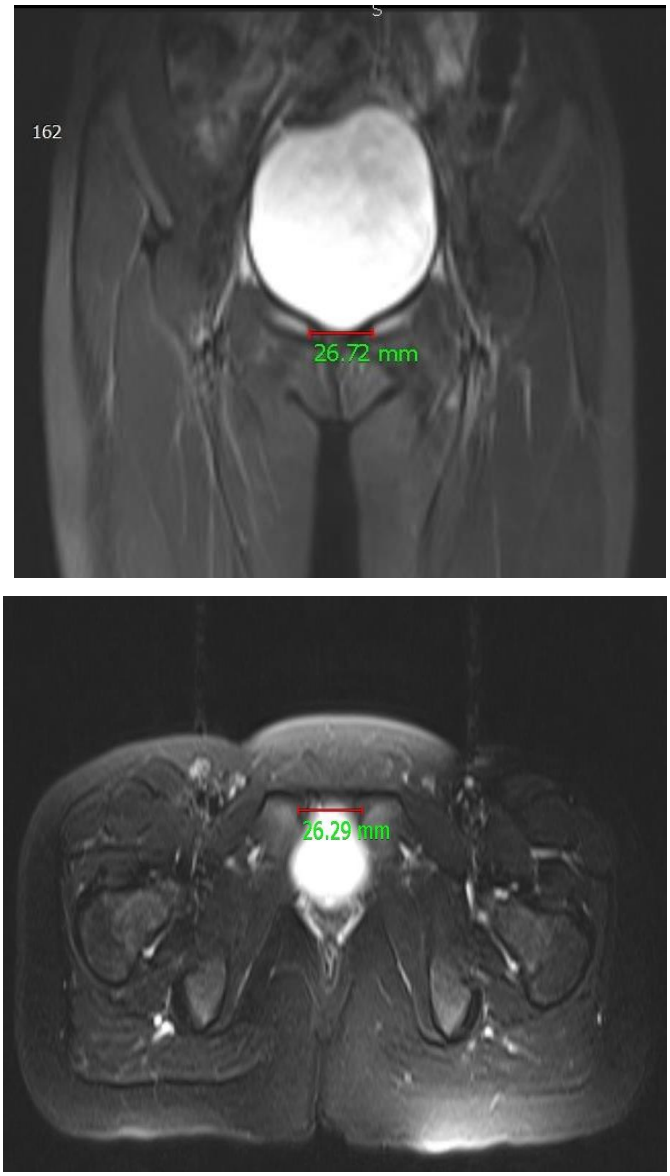

Figure 2. Coronal and axial MRI view of pelvis showing widening of the symphysis pubis

Conflict of interest
No conflict of interest was declared by the authors.

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