

## A rare case of accidental symphysiotomy (syphysis pubis fracture) during vaginal delivery

Nishant H. Patel<sup>1,\*</sup>, Bhavesh B. Aiarao<sup>2</sup>, Bipin Shah<sup>3</sup>

<sup>1</sup>Resident, <sup>2</sup>Associate Professor, <sup>3</sup>Professor & HOD, Dept. of Obstetrics & Gynecology, CU Shah Medical College & Hospital, Surendranagar, Gujarat

**\*Corresponding Author:**

Email: dr\_nishantpatel007@yahoo.com

### Abstract

A 25 year old female was referred to C. U. Shah Medical College and Hospital on her 1<sup>st</sup> post-partum day for post partum hemorrhage and associated widening of pubic symphysis 1 hour after delivering a healthy male child weighing 2.7 with complaints of bleeding per vaginum. Uterus was well contracted & widening of pubic symphysis was noted on local examination. Exploration followed by paraurethral and vaginal wall tear repair was done under short GA. X-Ray pelvis revealed fracture of pubic symphysis and hence post procedure patient was given complete bed rest along with pelvic binder under adequate antibiotic coverage. Patient took discharge against medical advice on post-partum day 10. Patient was discharged on hematinics and advised to take complete bed rest and use pelvic binder for 30 days.

**Received:** 26<sup>th</sup> March, 2017

**Accepted:** 19<sup>th</sup> September, 2017

### Introduction

The pubic symphysis is a midline, non-synovial joint that connects the right and left superior pubic rami. The interposed fibrocartilaginous disk is reinforced by a series of ligaments that attach to it. The joint allows very limited movement of approximately 0.5-1mm. Under hormonal stimulation during pregnancy, there is widening of the symphysis pubis and the sacroiliac joints. Diastasis wider than 15 mm is considered sub-dislocation and is generally associated with pain, swelling, and occasionally deformity. Most cases can be treated conservatively. However, internal or external surgical stabilization may occasionally be required.

### Case Report

A 25 year old female was referred to C. U. Shah Medical College and Hospital from community health center on her 1<sup>st</sup> post-partum day for post partum hemorrhage and associated widening of pubic symphysis.

She had delivered a healthy male child weighing 2.7 kg about 1 hour before being referred. She had complaints of bleeding per vaginum post partum.

Physical examination revealed a blood pressure of 110/68 mmHg and a pulse rate of 100/min. She was afebrile and was pale in appearance.

Abdomen was soft, non-tender and uterus was well contracted on palpation.

On local examination, widening of pubic symphysis was noted.

On further examination, intravaginal pack was noted which on removal revealed extensive paraurethral and vaginal tears.

On investigation her hemoglobin was found to be 7.01 g/dl, WBC count of 13,200 per mm<sup>3</sup> and platelet count was 2,72,000 per mm<sup>3</sup>.

Patient was shifted to OT for exploration with simultaneous blood transfusion which was followed by repair of paraurethral and vaginal wall tear under short general anesthesia.

3 roller packs and 2 plain packs were kept per vaginum to achieve further hemostasis.

Orthopedic advice was sought immediately post procedure as spontaneous symphysiotomy which could have occurred during labor was suspected.

All packs were removed 40 hours post procedure after ensuring that there was no active bleeding per vaginum.

Her X Ray Pelvis revealed widening of pubic symphysis while CT Scan revealed separated pubic symphysis with intervening distance of approximately 20 mm with air collection between 2 pubic bones.

Post procedure, her vitals were monitored was adequately infused intravenously to maintain hemodynamic stability.

She was given injectable Sulbactam+Cefoperazone, Metronidazole and Amikacin till post procedure day 5 and then shifted to oral tablets containing a combination of cefixime and clavulanic acid. Throughout her stay in the ward, she was given 2 units of PCV.

Patient was given complete bed rest and pelvic binder till post partum day 21, after which patient took discharge against medical advice.

Patient was vitally and hemodynamically stable during discharge.

When patient came for follow up, patient was vitally stable and was able to walk properly without any gait deformity.



## Discussion

Symphysis pubis diastasis is defined as separation of the joint, without fracture. It is a condition that allows excess lateral or anterior movement about the symphysis pubis and can result in symphysis pubis dysfunction. It is most commonly associated with pregnancy and childbirth, though trauma may occasionally be a culprit. In general, one in four women are affected, to a varying degree. The reported prevalence of non-traumatic diastasis varies from 1 in 300 pregnancies to 1 in 30,000 pregnancies.<sup>(1)</sup> Marked regional variations in prevalence have been noted, with reported rates in Norway as high as 37.5%.<sup>(2)</sup> In recent years, a possible increase in prevalence has been noted in the United Kingdom by some authors, but it is not clear whether this is a true increase or if it is merely due to increasing awareness of this diagnosis.<sup>(3)</sup>

The pubic symphysis is a midline, non-synovial, amphiarthrodial, fibrocartilaginous joint that connects the superior pubic rami. The joint is reinforced by four

ligaments: the superior, inferior, anterior, and posterior pubic ligaments.<sup>(4)</sup>

The interpubic cartilaginous disc and the anterior pubic ligament are the most important structures maintaining stability of the joint.<sup>(4)</sup> The physiologic width of the normal cleavage differs with age, ranging from 10mm at the age of 3 to 6mm at 20 years of age, to 3mm at 50 years of age.<sup>(5)</sup> Women have a greater thickness of the fibrocartilaginous disk, which allows more mobility of the pelvic bones, providing for a greater pelvic diameter to facilitate childbirth. During pregnancy, under the influence of hormones, particularly relaxin, the gap in the symphysis pubis can increase by at least 2-3mm<sup>6</sup>. In pubic symphysis diastasis, the separation of the right and left pubic rami may increase to a width of greater than 10mm<sup>7</sup>. This may result from rapid or prolonged vaginal birth or assisted forceps delivery, or it can occur prenatally. If there is complete separation or a traumatic tear, the joint will be completely unstable and the tear can sometimes be heard by women.

The abnormally widened gap can cause significant pain followed by inflammation and swelling. In the supine position, a patient's legs will involuntarily move apart. When this condition is encountered, investigation into possible involvement of the sacroiliac joints is required. The SI joints may be bilaterally or unilaterally involved.

Diagnosis may be made based on multiple imaging studies. On radiographs, there is an abnormally wide gap between the pubic bones, as in our case. Further, instability may be demonstrated on standing/ flamingo-position films.<sup>(6)</sup> On standing films, a vertical displacement of greater than 1cm indicates instability of the symphysis pubis; greater than 2cm is highly

associated with sacroiliac joint involvement. Cross-sectional studies, MRI or CT, can produce detailed information about the symphysis pubis as well as involvement of the SI joint.<sup>(6)</sup> MRI is superior in demonstrating soft-tissue injury and inflammation of the subchondral region and the bone marrow. Bone-scan studies are also able to determine areas of bony inflammation. Additionally, a small Swedish study has shown ultrasound to be as precise as radiographs in diagnosing symphyseal widening without risk of radiation to the fetus.<sup>(8)</sup>

There is no overwhelming evidence in the medical literature to support any particular treatment. However, this condition is commonly treated conservatively, with stabilization of the pelvis using a brace/ pelvic belt and muscle strengthening. Analgesic and anti-inflammatory medication are used to treat the pain as required. On occasion, women may benefit from physical therapy. In severe cases, orthopedic surgical consultation and operative fixation of the pelvis may be necessary.<sup>(1,5,9)</sup> Although specific recurrences are difficult to predict, women must be informed of the high recurrence rate of 68-85% in future pregnancies.<sup>(6)</sup>

In summary, our case demonstrates an extreme case of pubic symphysis diastasis related to prolonged labor. Our patient was treated conservatively, with successful results. Diagnosis and progress to healing was documented by radiographs.

## References

1. Parker JM, Bhattacharjee M. Images in clinical medicine. Peripartum diastasis of the symphysis pubis. *N Engl J Med*. 2009 Nov. 5;361(19):1886. [PubMed] [PubMed]
2. Aslan E, Fynes M. Symphysial pelvic dysfunction. *Curr Opin Obstet Gynecol*. 2007 Apr.;19(2):133–139. [PubMed] [PubMed]
3. Owens K, Pearson A, Mason G. Symphysis pubis dysfunction—a cause of significant obstetric morbidity. *Eur J Obstet Gynecol Reprod Biol*. 2002 Nov. 15;105(2):143–146. [PubMed][PubMed]
4. Becker I, Woodley SJ, Stringer MD. The adult human pubic symphysis: a systematic review. *J Anat*. 2010 Nov.;217(5):475–487. [PubMed][PubMed]
5. Pedrazzini A, Bisaschi R, Borzoni R, Simonini D, Guardoli A. Post partum diastasis of the pubic symphysis: a case report. *Acta Biomed*. 2005 Apr.;76(1):49–52. [PubMed] [PubMed]
6. Jain S, Eedarapalli P, Jamjute P, Sawdy R. Symphysis pubis dysfunction: a practical approach to management. *The Obstetrician & Gynaecologist*. 2011 Jan;24(8(3)):153–158.
7. Cowling PD, Rangan A. A case of postpartum pubic symphysis diastasis. *Injury*. 2010 Jun.;41(6):657–659. [PubMed] [PubMed]
8. Björklund K, Bergström S, Nordström ML, Ulmsten U. Symphyseal distention in relation to serum relax in levels and pelvic pain in pregnancy. *Acta Obstet Gynecol Scand*. 2000 Apr.;79(4):269–275. [PubMed] [PubMed]
9. Chang JL, Wu V. External fixation of pubic symphysis diastasis from postpartum trauma. *Orthopedics*. 2008 May;31(5):493. [PubMed][PubMed]