

Symphysis Pubis Diastasis After Normal Vaginal Birth: A Case Report

Dear Editor,

The reported incidence of symphysis pubis diastasis following vaginal delivery is very low. The injury is more commonly caused by severe trauma from road traffic accidents and falls from heights. The reported incidence of peripartum pubic separation varies from 1 in 300 to 1 in 30,000 deliveries,^{1,2} although it may occur during the antepartum, intrapartum and postpartum periods. Mild separation of the symphysis pubis during pregnancy is considered physiological. A study of 14 women using computed tomography (CT) to assess anatomical changes in the pelvis following uncomplicated vaginal deliveries showed that 42% of the postpartum women had widening of the symphysis pubis, while none in the control group did.³ Separations of more than 10 mm are usually associated with tenderness and difficulty with walking, and are thought to be pathological.⁴

Factors contributing to rupture of the symphysis pubis during vaginal delivery are poorly defined. The injury is thought to be caused by the fetal head exerting pressure on the pelvic ligaments, which have been weakened or relaxed by the hormones progesterone and relaxin. It is thought to occur more commonly if manual pressure is applied to the pelvis in a latero-lateral and antero-posterior direction. The McRoberts manoeuvre, which is generally safe, may result in pubic symphysis diastasis, especially when excessive force is used or when there is prolonged placement of the patient's legs in a hyperflexed position.⁵

Case Report

We present a case of spontaneous symphysis pubis diastasis in a healthy primigravida, after a straightforward, uncomplicated, non-operative, term vaginal delivery.

Madam I was a 22-year-old primigravida with no previous medical or surgical history. She had an uneventful antenatal history, and all her routine antenatal blood investigations and ultrasound scans were normal. Her singleton pregnancy was carried to term.

She experienced a spontaneous onset of labour at 39 weeks of gestation. She presented with regular, painful uterine contractions associated with show. On physical examination, she was found to have a fully effaced cervix dilated to 3 cm. She was admitted into the labour ward and amniotomy was performed, revealing clear liquor.

After 4 hours of active labour, she progressed to 7-cm cervical dilatation and was contracting every 2 minutes, without the use of any oxytocics. She was increasingly

distressed due to the uterine contractions and an epidural analgesia was administered, which successfully relieved her pain.

After an active phase of labour lasting 6 hours, she progressed to full dilatation and started bearing down. She had an uncomplicated normal vaginal delivery. A routine episiotomy was performed prior to the delivery of a baby boy with a birth weight of 2824 g. The second stage of labour lasted 46 minutes and the third stage lasted 5 minutes.

Just prior to the delivery of her baby, she was noted to have a swelling over the left vulva. After the delivery, the swelling became more prominent and there was passage of large blood clots vaginally.

On clinical examination, the left vulva was noted to be oedematous but there was no obvious haematoma. On palpation, a defect was felt adjacent to the urethra on the left side, extending into the cave of Retzius at the retropubic space, and laterally on either sides. The symphysis pubis was noted to be widely separated, with the gap between pubic bones measuring about 4 to 5 cm.

A vaginal pack was inserted and blood samples were taken for an urgent full blood count, coagulation profile and cross match. The epidural analgesia was re-started in the immediate postpartum period, for a duration of about 6 hours, to relieve the pelvic pain associated with the condition. Prophylactic antibiotics in the form of intravenous ceftriaxone and metronidazole were administered and strict bed rest instructed. An indwelling urinary catheter was inserted and clear urine was drained. Stool softeners were prescribed to prevent straining.

A pelvic X-ray (Fig. 1) was done, revealing a wide separation of the symphysis pubis measuring about 4.5 cm. The sacro-iliac and hip joints appeared intact. An urgent referral was made to the orthopaedic surgeon and upon assessment, a diagnosis of diastasis of the symphysis pubis was made.

A conservative approach to management was undertaken. The patient was advised strict bed rest with a suitable pelvic-immobilising device. A referral to the physiotherapist was made to obtain a custom-made hip brace or corset to immobilise the pelvis. However, such a device was not immediately available and an abdominal binder was used instead. Her vaginal bleeding stopped spontaneously a day after her delivery, with the removal of the vaginal pack.

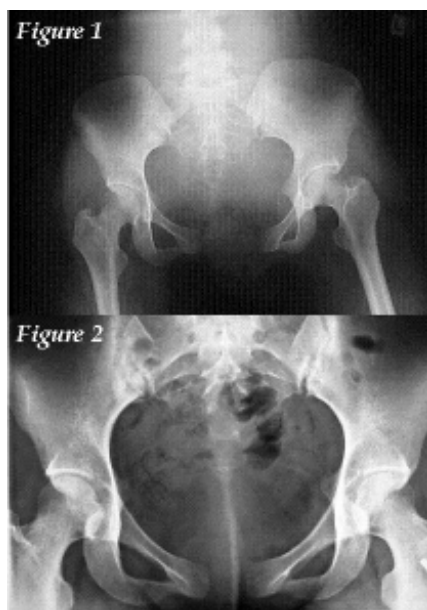


Fig. 1. A pelvic X-ray showing a wide separation of the symphysis pubis measuring about 4.5 cm.

Fig. 2. A pelvic X-ray showing a 2-cm separation of the pubic symphysis, a significant improvement over the initial radiologic findings.

Thromboprophylaxis with graduated stockings and daily subcutaneous low molecular weight heparin were instituted for thromboprophylaxis in view of the decreased mobility expected with the condition.

Appropriate physiotherapy sessions were conducted for 6 days post-delivery when she was able to walk freely and independently with a walking frame. Her urinary catheter was removed and she was able to void freely without any difficulties.

The patient was discharged from hospital 1 week after delivery. She was prescribed oral antibiotics and analgesics. She was advised to continue wearing her abdominal binder and maintain active ambulation.

One month later she was seen at the outpatient clinic. She was able to walk independently with a walking stick and no longer experienced any pain and vaginal bleeding. Assessment by the orthopaedic team found her to be in good health. A pelvic X-ray (Fig. 2) showed a 2-cm separation of the pubic symphysis, a significant improvement over the initial radiologic findings.

Three months after the delivery, she was reviewed again at the outpatient clinic. This time, she was found to be in better health. Her menstruation had resumed. A pelvic X-ray showed persistence of the 2-cm separation of the pubic symphysis.

Seven months and 3 years after her delivery, she had pelvic X-rays, which showed the persistence of the 2-cm gap at the pubic symphysis. However, she remained well.

Madam I had no plans to embark on another pregnancy. She was counselled regarding the possibility of a recurrence in her next pregnancy.

Discussion

This case illustrates the rare occurrence of pubic symphysis diastasis in a healthy primigravida following an uncomplicated term vaginal delivery. Peripartum pubic symphyseal rupture was diagnosed on clinical grounds and the diagnosis was confirmed by radiography with an anteroposterior X-ray of the pelvis, which showed diastasis of the pubic rami. The use of magnetic resonance imaging (MRI) has been described to enable the visualisation of the soft tissue injury.⁶

The pain of symphysis pubis diastasis during and after pregnancy can be disabling. Most patients present with severe pain located in the areas supplied by the pudendal and genitofemoral nerves. The pain may radiate to the sacroiliac joints and shoot down the buttocks and legs. Epidural analgesia can be considered in most cases. In severe cases of symphysis pubis diastasis, early consultation with an anaesthesiologist is encouraged.⁷

Pubic symphysis diastasis following childbearing and vaginal birth differs from other traumatic symphyseal diastases with respect to both natural history and treatment.⁸ During pregnancy, the ligamentous laxity allows for greater elongation of the ligaments before they are rendered incompetent. After delivery, the pelvic ligaments rapidly tighten so that the pelvis is stabilised sooner compared to injuries that have a similar radiographic appearance but are the result of traumatic pelvic injuries.

Pubic symphysis diastases following vaginal delivery are rarely associated with soft tissue and visceral injuries compared to traumatic symphyseal rupture. Cases of bladder incarceration⁹ and bowel herniation¹⁰ have been reported in traumatic symphysis pubis diastasis. However, vestibular rupture and complete disruption of the external anal sphincter have been reported in only 1 case of symphyseal diastasis during spontaneous vaginal delivery.¹¹ The vigorous application of the McRoberts position or suprapubic pressure may increase the risk of pubic symphysis diastasis, and in some cases may also result in injury to the urinary bladder.

Most cases of non-traumatic symphysis pubis diastasis following vaginal birth can be successfully managed conservatively with bed rest, analgesia and activity restriction.^{7,8,12} Techniques for managing traumatic diastasis of the pubic symphysis include bed rest, hip spica casting, pelvic slings, external fixation and internal fixation.

Based on a literature review, there is a significant risk of repeat symphyseal rupture with subsequent vaginal delivery. However, a case of successful and uneventful vaginal

delivery following a rupture has been reported.¹²

Conclusion

Pubic symphysis diastasis is an uncommon injury that should be considered when evaluating patients in the peripartum period who are experiencing suprapubic, sacroiliac or thigh pain. This case report demonstrated that severe non-traumatic symphyseal rupture associated with vaginal delivery can be managed satisfactorily, without any operative intervention or prolonged bed rest.

REFERENCES

1. Kane R, Erez S, O'Leary JA. Symptomatic symphyseal separation in pregnancy. *Surg Gynecol Obstet* 1967;124:1032-6.
2. Kubitz RL, Goodlin RC. Symptomatic separation of the pubic symphysis. *South Med J* 1986;79:578-80.
3. Garagiola DM, Tarver RD, Gibson L, Rogers RE, Wass JL. Anatomic changes in the pelvis after uncomplicated vaginal delivery: a CT study on 14 women. *AJR Am J Roentgenol* 1989;153:1239-41.
4. Lindsey RW, Leggon RE, Wright DG, Nolasco DR. Separation of the symphysis pubis in association with childbearing. A case report. *J Bone Joint Surg Am* 1988;70:289-92.
5. Heath T, Gherman RB. Symphyseal separation, sacroiliac joint dislocation and transient lateral femoral cutaneous neuropathy associated with McRoberts' maneuver. A case report. *J Reprod Med* 1999;44:902-4.
6. Kurzel RB, Au AH, Rooholamini SA, Smith W. Magnetic resonance imaging of peripartum rupture of the symphysis pubis. *Obstet Gynecol* 1996;87:826-9.
7. Fuller JG, Janzen J, Gambling DR. Epidural analgesia in the management of symptomatic symphysis pubis diastasis. *Obstet Gynecol* 1989;73:855-7.
8. Kowalk DL, Perdue PS, Bourgeois FJ, Whitehill R. Disruption of the symphysis pubis during vaginal delivery. A case report. *J Bone Joint Surg Am* 1996;78:1746-8.
9. Bartlett CS, Ali A, Helfet DL. Bladder incarceration in a traumatic symphysis pubis diastasis treated with external fixation: a case report and review of the literature. *J Orthop Trauma* 1998;12:64-7.
10. Kim WY, Ryu JD, Choi MS, Kim JY. Bowel herniation after traumatic symphysis pubis diastasis. *J Orthop Trauma* 2001;15:445-7.
11. Karantanis E, Fynes MM, Thum MY, Bircher M, Stanton SL. Symphyseal diastasis and vestibular rupture during spontaneous vaginal delivery. *BJOG* 2003;110:630-2.
12. Culligan P, Hill S, Heit M. Rupture of the symphysis pubis during vaginal delivery followed by two subsequent uneventful pregnancies. *Obstet Gynecol* 2002;100:1114-7.

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