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Case Report

Case series of pubic bone diastasis causing severe pelvic girdle pain in pregnancy

Pooja Gupta*, Renuka Malik

Department of Obstetrics and Gynecology, PGIMER and Dr. RML Hospital, New Delhi, India

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***Correspondence:**

Dr. Pooja Gupta,

E-mail: drpoojagupta1@gmail.com

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ABSTRACT

Pelvic girdle pain (PGP) is a pregnancy discomfort that causes pain and limitation of mobility and functioning in any of the three pelvic joints. The patient usually presents antenatally with persistent suprapubic pain which is exaggerated during moving, walking or climbing stairs. Intrapartum, this could be associated with disruption of sacroiliac joint, hematuria and bladder dysfunction in severe cases. Pelvic X-rays, ultrasound, and magnetic resonance imaging aid in confirmation of diagnosis by measuring the degree of separation of symphysis. Treatment modalities range from conservative management to orthopedic interventions in form of pelvic strapping, open reduction and internal fixation. Postpartum pain often masks clinicians to make the diagnosis of pubic symphysis diastasis. A case series of three cases which were diagnosed and confirmed with ultrasound and managed with orthopedic consultation till their delivery and in post-partum period till recovery. Although there is still no specific consensus on treatment guideline, management generally of conservative management to surgical in the form of pelvic bracing or strapping. Awareness of this rare condition can help in management of pain and associated disability which improves post-delivery.

Keywords: Pubic bone diastasis, Pubic bone pain in pregnancy, Severe pelvic girdle pain in pregnancy

INTRODUCTION

Pubic symphysis is a midline non synovial fibrocartilaginous joint. It unites the right and left superior rami of pubic bones and helps to transfers the weight of the upright trunk from the sacrum to buttocks.¹ Dynamics of joint differs with age and hormonal status so that in pregnancy, the gap increases by 2-3 mm.^{2,3} This is attributed to the relaxin mediated remodelling of ligamentous structure.⁴ Diastasis can also occur as a result of precipitate labor and instrumental delivery.^{5,6} These changes are reversible after complication-free birth but sometimes may result in considerable and prolonged morbidity.

CASE REPORT

Case report 1

A 28-year-old, G2P1 with previous one full term vaginal delivery presented at 28 weeks of pregnancy to ANC OPD of PGIMER and DR RML Hospital, New Delhi with PGP (Pelvic girdle pain). She was 172 cm tall and had a body mass index of 25 kg/m². As a nursing staff, she continued to be physically active and carried her pregnancy well till the seventh month of pregnancy when she started experiencing pain in the region of the right buttock, acute in onset and gradually progressive. Initially confined to ipsilateral thigh, eventually involved

the other side as well. Gradually symptoms started worsening and affected daily routine activities. At 30 weeks of gestation, a diagnostic high-resolution ultrasound of pubic symphysis including power screening was done that suggested the presence of widening at pubic symphysis measuring 8.5 mm across (Figure 1). Conservative management was carried out till term in form of physiotherapy and occasional analgesics. At 38 weeks, she had spontaneous onset of labor was given a trial of labor after orthopaedic opinion who allowed her lithotomy positioning. The first and second stage of labor was uneventful. Augmentation was done with Pitocin infusion. With a right mediolateral episiotomy, she delivered a healthy term neonate weighing 3.5 kg. Labor analgesia was given with intravenous paracetamol. During parturition also, she complained of persistent pain in suprapubic region and difficulty in maintaining the lithotomy position for long. No epidural was given to her throughout labor due to patient's preference. In postpartum, suprapubic pain was persistent during walking, in the first week. But gradually the intensity decreased over a period of 6 weeks when she resumed routine activities as earlier with physiotherapy alone.



Figure 1: Ultrasound image showing diastasis of symphysis pubis to 0.8.5 mm.

Case report 2

25-year-old primigravida with diamniotic dichorionic twins, conceived on ovulation induction and intrauterine insemination. She was 168 cm and BMI were 23 kg/m². As a homemaker, her pregnancy was uneventful until the onset of seventh month when she started experiencing extreme difficulty in squatting and climbing stairs. Gradually there was difficulty to stand erect due to pain and discomfort in suprapubic area leading to repeat hospital admissions in view of suspected preterm labor. After ruling out obstetric causes of pain, detailed orthopedic evaluation suggested symptoms due to separation of symphysis to a distance of 11.3 mm (Figure 2). Detailed biochemical evaluation was found to be normal. Antenatally pelvic bracing was prescribed, but she refused and insisted to be on conservative

management with oral analgesics and antenatal yoga. Patient underwent elective caesarean section at 37 weeks for obstetric indications and delivered healthy male babies of 2.2 kg and 2.5 kg respectively. Post-operative phase was uneventful, and patient resumed her self-care and routine activities by the end of one week. She was discharged on oral analgesics and was advised regular physiotherapy under expert supervision. Patient is still under orthopedic follow up with conservative management.



Figure 2: Ultrasound image showing diastasis of symphysis pubis to 11.3 mm.

Case report 3

Another patient was a 22-year-old, married for four years, G5P0A4. All were spontaneous unexplained missed abortions that landed in surgical evacuation. Her fifth conception was spontaneous again and was going well until the onset of second month when she had acute onset of suprapubic pain and buttock pain that radiates to one leg, gradually involving both the legs. Initially pain was more during weight bearing and climbing stairs but gradually pain worsened rapidly over a week to nearly complete arrest of all the routine activities. Symptoms progressed over time till sixth month of pregnancy when she was advised admission in obstetric unit for detailed orthopedic referral and fetomaternal surveillance. On radiological imaging she was diagnosed with pelvic symphysis separation. Biochemical evaluation revealed severe hypovitaminosis D. With endocrine evaluation, daily calcium carbonate tablets and Vit.D3 60K on weekly basis was initiated. Orthopedic consultation advised conservative management. Patient was advised to wear pelvic belt on daily basis that could be removed only during sleep. This was to be followed till term or delivery whichever earlier. Apart from this, patient had no medical or obstetric comorbidity throughout the pregnancy. Near term, all biochemical vitamin levels

normalized. With progressive severity in symptoms, elective caesarean was done at 37 completed weeks. Since patient was unable to maintain a stable posture for regional anaesthesia, general anaesthesia was given. A 3.5 kg healthy neonate was delivered and given mother side. In Immediate postpartum pain in suprapubic and gluteal regions, that aggravated on standing and moving about. Within two weeks of delivery, patient started taking analgesics very occasionally and resumed her routine household work as earlier. At 8 weeks postpartum, she recovered completely from pelvic girdle pain.

DISCUSSION

The first trimester of pregnancy under the influence of hormonal and mechanical effects. Pubic symphysis dysfunction is a rarely observed and often an under-reported complication of pregnancy. With very limited literature on the same makes it difficult to reach on a consensus regarding its etiopathogenesis, presentation and management.

Various studies give the incidence of pelvic pain in pregnancy as between 48-71%.⁷⁻⁹ Whereas other report it to be a very rare entity.

PGP, now referred to as pregnancy related pelvic girdle pain (PRPGP) comprises a spectrum of following conditions confirmed after clinical tests.¹⁰⁻¹²

- Pelvic girdle syndrome: Daily pain in all three pelvic joints
- Symphysiolysis: Daily pain in the pubic symphysis only
- One-sided sacroiliac syndrome: Daily pain from one sacroiliac joint alone
- Double-sided sacroiliac syndrome: Daily pain from both sacroiliac joints
- Miscellaneous: Daily pain in one or more pelvic joints, but inconsistent findings from the pelvic joints e.g. pain history from the pubic symphysis and objective findings from one sacroiliac joint.

PRPGD or Symphysis pubis dysfunction (SPD) occurs where the joint becomes sufficiently relaxed to allow instability.¹³ Where the gap increases to more than 10 mm this is known as diastasis of the symphysis pubis (DSP). It is a rarely reported complication of pregnancy with a reported incidence between 1 in 300 to 1 in 30000.¹⁴ Here, the separation of the right and left pubic rami may increase to a width of greater than 10 mm.¹⁵ This is one of the causes of pelvic girdle pain (PGP) during pregnancy and postpartum.

Although exact cause is still unknown, but may be attributed to history of strenuous work, advanced age, past history related to trauma and difficult delivery and any recurrence from previous pregnancy.^{16,17} Clinically it can be mild to severe but treatable at every stage.

Presenting complains include pain in pubic, lower back, groin and hips often described as grinding in nature. Pain is worse on making limb movement in any form. Apart from adding disability, PGP has psychosocial impact too. It causes stress, anxiety, anger, depression, strained marital relations and postpartum depressive symptoms.^{18,19}

Although overall incidence of pregnancy related pelvic pain has been reported to be between 48%-71%.⁷⁻⁹ With the evolution of better diagnostic modalities and awareness of this entity among the practitioners reported incidence can see a further increase.

Rustamova S et al, studied the mechanics of pubic symphysis during labor and postpartum using ultrasonography and observed the widening of symphysis seen in 59% to 94% patients at some time during pregnancy.²⁰ Predisposing factors of pubic diastasis include multiple pregnancy, instrumental delivery, and shoulder dystocia, developmental dysplasia of the hip and prior pelvic trauma. Yoo JJ et al, observed the occurrence in primigravids, as was seen in our case as well.²¹ Studies report that most patients improve symptomatically within the first few weeks, while some patients suffer persistent pain.^{1,5,22}

However, several studies have failed to conclude any correlation between the magnitude of separation and severity of symptoms. In some studies, the symphyseal separation gap appeared to predict outcome, while some studies negate it.^{23,24} Recurrences of pelvic pain have been found in successive pregnancies, irrespective of severity.²⁵ However, in our present case series, none of the patients had similar history in previous pregnancies.

In the medical literature, there are no definite guidelines to support any particular treatment. Most of the cases respond to conservative therapy in form of bed rest, analgesics and pelvic bracing. Conservative therapy usually results in a complete recovery in acceptable time span. Physiotherapy in the form of muscle strengthening exercises also has a role. Symphysis dysfunction as a clinical entity has not shown to be recurrent. In fact, even if recurrent the management is clinically based and preferably conservative. Henry et al, reported a diastalsis of 24 mm in postpartum phase corrected by chiropractic interventions such as transcutaneous electrical nerve stimulation, moist heat, and chiropractic adjustments of L4, L5, sacrum and innominate bones and sacroiliac belt.²⁶ Another conservative approach as reported by Idrees A et al, has supported neuromodulation as a modality of treatment.²⁷ Orthopedic interventions in any form are rarely required. Indications for operative management include, traumatic etiology, failure of conservative therapy, or persistence or recurrence of symptoms after puerperium. Operative management of diastasis includes open reduction with internal fixation, external fixation and stabilization of the posterior pelvic ring.²⁸⁻³¹ In fact, Parker et al, suggested that surgical

correction should be offered if the diastasis is more than 3 cm wide.³² Studies have concluded that treatment including an exercise program has found to be beneficial enough in many patients.³³ This is consistent with our patients too in whom apart from medical treatment; physiotherapy played an important role in alleviating symptoms.

CONCLUSION

Pregnancy related separation of the symphysis pubis is a rare and often a missed complication resulting in considerable morbidity. Pubic symphysis dysfunction is a rare clinical entity that can present both in antepartum period and during parturition which is not recurrent and improves following delivery by 2 months. Pelvic floor exercises from early pregnancy can prevent the development of SPD. Taking precautions such as with frequent rests and avoiding activities like squatting, climbing, twisting or bending should be taken. Under the guidance of expert obstetric physiotherapist, this clinical entity shows significant improvement in pain, functional status and overall physical health.

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