



CASE SERIES OF SEVERE PERIPARTUM PUBIC DIASTASIS; OUR EXPERIENCE AT A TERTIARY CARE CENTER IN CHHATTISGARH

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ABSTRACT Although pubic symphyseal separation (also known as diastasis symphysis pubis/DSP) during labor is not so common event but when it happens and left unattended or ill-managed, it may lead to long term physical disability by causing difficult ambulation, pain and bladder dysfunction. We share our experience of two postpartum cases of severe DSP in one year who were referred for PPH with diastasis of more than 5cm. Both cases were managed conservatively with analgesics, pelvic binder and physiotherapy by orthopedic surgeons and advised follow up Xray after 6 weeks. None had posterior pelvic girdle injury. Increased awareness and good clinical knowledge about available treatment options amongst managing clinicians about DSP would ensure early clinical diagnosis and timed orthopedic intervention with aim to reduce pain & disability and to allow early resumption of physical activity.

KEYWORDS : peripartum pubic diastasis, symphyseal disruption, pelvic ring injury

INTRODUCTION

Symphysis pubis is a fibrocartilaginous joint which normally widens by 2-3mm (resulting into symphysis pubis gap of 3-20mm) during third trimester of pregnancy without causing any discomfort so as to facilitate delivery by increasing pelvic diameters of inlet and outlet. In severe cases of symphysis pubis dysfunction (SPD), this gap increases to more than 10mm which is defined as diastasis of symphysis pubis (DSP). Incidence of DSP has been reported as 1:800¹ in British population whereas in other studies it has ranged between 1:300 to 1:30,000 pregnancies^{2,3}. High levels of relaxin and progesterone during pregnancy have been linked with pelvic joint laxity⁴. However, their role in causing SPD remains unproven in studies⁴. Identified risk factors for peripartum DSP include prolonged active labor, primiparity, forceps deliveries, macrosomia, epidural analgesia, Mc Robert's maneuver for shoulder dystocia, excessive weight gain during pregnancy, multiple gestation, too long or too short second stage of labor, weakened sclerotic degenerated pubic joint with ligamentous laxity, advanced maternal age etc^{1,2,5}. Pelvic floor muscle exercises, deep abdominal muscle exercises and Pilates may prevent SPD and its complications.

Clinical features noted in DSP are continuous suprapubic or pelvic pain radiating to posterior pelvic girdle or lower back and tenderness over symphysis pubis and sacroiliac joints, painful and restricted hip joint movements specially walking or climbing stairs, waddling gait, widening of symphysis pubis^{5,6}. Diagnosis is usually based upon clinical examination and imaging. Imaging is the only definitive method to confirm diagnosis. MRI may be useful in cases with suspected soft tissue injuries. There is conflicting data regarding conservative and surgical management of these cases. We present here details of two cases who came to our emergency obstetric unit after vaginal delivery with DSP.

CASE 1

A 22year old primiparous patient was referred from primary health center (PHC) after vaginal delivery of a male child weighing 3.2 kg in view of postpartum hemorrhage. She did not give history of any medical or surgical illness in past. Fundal pressure was applied along with hyperabduction of thighs by delivering staff at PHC in 2nd stage of labor. On examination, she was diagnosed to have traumatic postpartum hemorrhage (PPH) with massive hemorrhage and hypotension. Laboratory investigations confirmed the presence of severe anemia. I.V. Crystalloid solution was started to combat impending hypovolemic shock and blood sample was sent for crossmatch. She was taken up for emergency vaginal exploration in OT under spinal anesthesia. She was found to have right paraurethral

tear adjacent to external urethral meatus through which right sided pubic bone was visible. There was a gap of about 7cm palpable between both pubic bones superficially. Bladder was catheterized and clear urine was drained. Cervical laceration, lateral vaginal mucosal tear and 3rd degree perineal tear (IIIa) were repaired. Orthopedic surgeon's opinion was taken in OT and X ray pelvis with bilateral hip joints was planned after OT. Paraurethral tear was repaired after confirming hemostasis in the injured region. Three pints of blood were transfused. Postoperatively, she had difficulty in walking and pelvic pain. X ray confirmed the diagnosis of traumatic pubic symphyseal diastasis of 6cm with intact bilateral sacroiliac joints. She was advised conservative management with bed rest, analgesics, pelvic binder and follow up Xray after 6 weeks. She was discharged after 14 days and had no urinary or bowel complaints. She did not follow up.



Figure 1- X Ray Pelvis Both Hips AP View Of Case 2 Showing Pubic Diastasis with normal sacroiliac joints.

CASE 2

A 25year old multiparous patient was referred from PHC for traumatic PPH following vaginal delivery of a male child weighing 3.4kg. She had one previous full term normal vaginal delivery 3 years back and delivered a female weighing 2.5kg. There was no history of prolonged labor or difficult delivery in present pregnancy. She was hemodynamically stable at the time of admission. On examination under anesthesia, left paraurethral tear was noted and symphyseal surface of left pubic bone

was visible through torn vaginal mucosa. A gap felt at the site of pubic symphysis of about 6-7cm on palpation. Paraurethral tear was repaired after confirming hemostasis at injured site. She was given three units of blood in view of massive PPH. Orthopaedician's reference was done. X ray confirmed the diagnosis of traumatic symphysis pubic diastasis of 5.5 cm with normal bilateral sacroiliac joints (figure 1). Pelvic binder was applied and physiotherapy was started. She was discharged on postpartum day 7 with urinary catheter in situ with advice to follow up after 1 week. Follow up visit is awaited.

DISCUSSION

Intrapartum disruption of pubic symphysis (usually classified as open-book injuries) is thought to result from spontaneous ligament rupture of lax pelvic joint due to rapid and forceful descent of fetal head into the anterior pelvic ring in presence of certain predisposing risk factors mentioned earlier. Currently, we do not have any universal standard approach or recommendations for management of peripartum DSP. Suggested treatment strategies found in literature have been based on few case reports or case series or results from studies with small sample size.

In a review on management of peripartum DSP by Herren et al (2015), it was concluded that conservative treatment with a pelvic brace/binder is the gold standard method in postpartum cases⁶. However, conservative management has been associated with chronic pain and significant functional disability.

Surgical intervention is required in cases of persistent separation. Various surgical options include anterior plate fixation, minimally invasive sacroiliac joint screw fixation (in combined posterior pelvic girdle injuries), external fixation and open reduction with internal fixation^{6,7}.

Few authors have suggested early orthopedic surgical intervention in cases where diastasis is more than 5cm which may improve the recovery rate and functional outcome^{7,8}.

Dunivan et al reported a case of postpartum severe pubic symphyseal disruption of 6.2cm which was treated aggressively with external fixation of an open book pelvis and physical therapy and it led to early ambulation of patient with a walker without any voiding problems and fast recovery³. Other reported postpartum cases with 5.5cm and 8cm diastasis, early surgical correction by open reduction and internal fixation (ORIF) was done which allowed patients to have painless ambulation within three months of surgery and resumption of full physical activity⁷. Chang et al has emphasized the use of a pelvic frame external fixator as an alternative to ORIF in severe postpartum DSP cases with significant soft tissue injury to avoid the risk of soft tissue infection or osteomyelitis⁹.

There appears to be high recurrence risk of about 50% for DSP in subsequent pregnancies while attempting vaginal delivery. Therefore, it is important to consider cesarean delivery in affected women¹⁰.

CONCLUSIONS

By avoiding excessive forceful hip abduction, using lithotomy for shorter duration, may help to prevent severe degrees of SPD including DSP. Adequate postpartum management includes good analgesia, bed rest, thromboprophylaxis and elastic compression stockings for VTE prevention, gradual mobilization and physiotherapy. Multidisciplinary team involving obstetrician, orthopedician and physiotherapist may ensure best possible outcome in these cases.

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