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Case of Natural Reverse Symphysiotomy

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Abstract: ***Separation of pubic symphysis during delivery is a rare complication resulting in considerable and prolonged morbidity for parturient women. The usual presentation is that of something giving way in the region of the symphysis pubis, unbearable lower abdominal pain or difficulty on moving from side to side or performing any weight bearing activities. There may be disruption of sacro-iliac joint, haemorrhage or urine incontinence in severe cases. Treatment modalities range from conservative management (including analgesics, pelvic binders) to orthopaedic management such as external fixation or open reduction and internal fixation. Since postpartum pain is frequently dismissed as attritubale to labor and childbirth, the diagnosis of pubic symphysis diastasis is often delayed or missed altogether.The incidence of complete separation of the pubic symphysis is reported to be within 1 in 300 to 1:30,000, with many instances likely undiagnosed due to mild symptoms and limited debility in most cases.(1)***

Keywords: PSD, pubic symphysis daistatsis

1. Introduction

The pubic symphysis is a non-synovial joint that connects the right and left superior pubic rami with a normal radiographic separation width of 4-5mm. due to hormone-related changes and physiological alterations observed during pregnancy, the gap can increase by 2-3mm and remain after delivery, such a separation is called physiological pubic symphysis diastasis. Infrequently vaginal delivery might lead to joint widening >10mm which is diagnostic and defined as pathological pubic symphysis daistasis (2). Pubic symphysis diastasis (PSD) following childbirth via vaginal delivery is a rare but debilitating condition. Widening of the cartilaginous joint during pregnancy before childbirth is physiologic and is facilitated by relaxin hormone secreted by the placenta, this assists in expanding the birth canal for successful delivery.However, reports of non-physiologic pubic diastasis exceeding that typically required for childbirth (typically greater than 1 cm) can leave mothers with debility and extreme pain. The leading symptom of symphyseal separation is pubic joint pain and inflammation. Pain can radiate to abdominal or inguinal area, to lower extremities or to the back. The symptom tend to worsen while moving , bearing a load or raising a leg. We report a case of 21 year old patient delivered at sub district hospital and was referred to a tertiary care hospital.

2. Etiology

Identified risk factors for pubic daistasis include

1) Primigravida women
2) Prolonged active labor
3) Instrumental deliveries(forceps delivery)
4) Macrosomia
5) Shoulder dystocia
6) Cephalon pelvic disproportion
7) Epidural analgesia

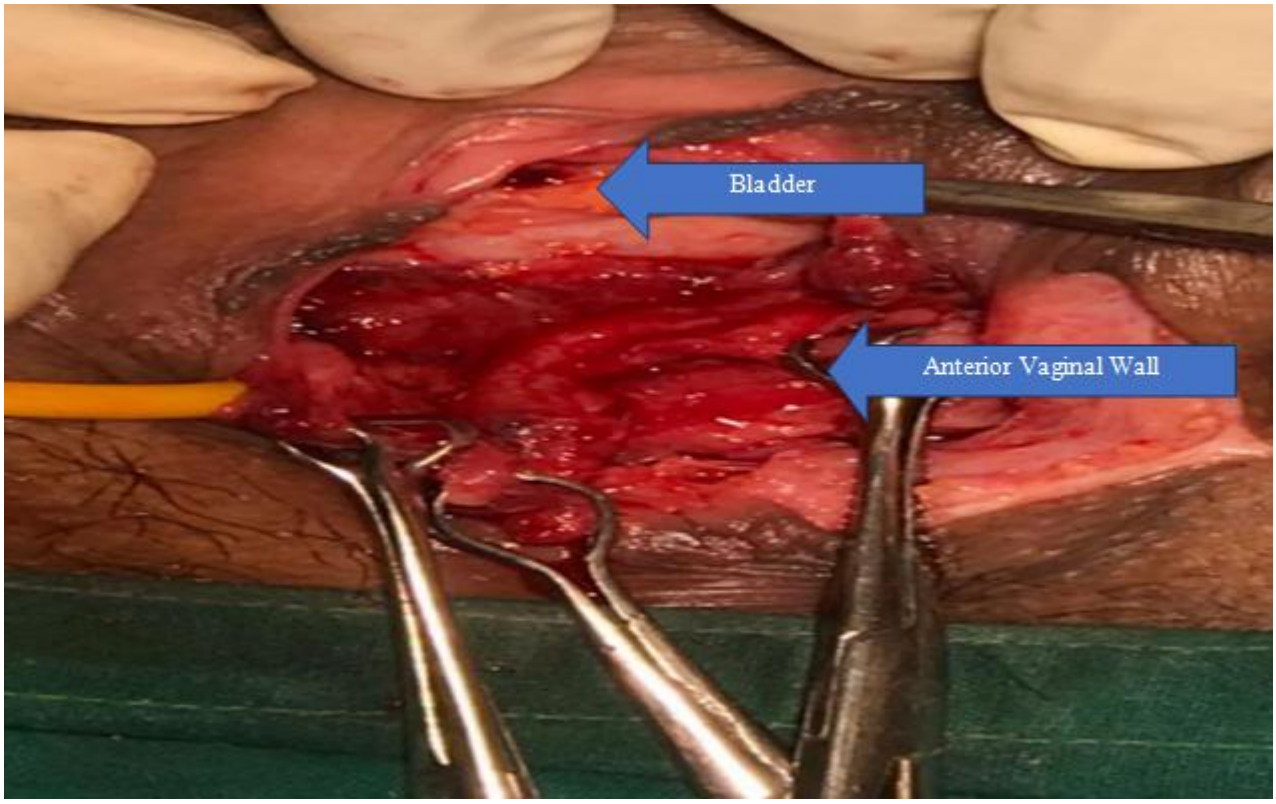
3. Case History

A 21 year old female patient delivered a full term 2.7kg baby vaginally at subdistrict hospital which was complicated by post-partum haemorrhage for which she was referred to civil hospital. The civil hospital referred her to tertiary care hospital for further management.

On presentation at our hospital:
Her general condition was poor, she had severe lower abdominal pain and appeared pale. She was hypotensive bp-80/60mmhg and had tachycardia (pulse-120/min)On per abdominal examination: uterus was well retracted and had suprapubic tenderness+++

Local examination was suggestive of anterior and right vaginal wall tear, clitoral tear and clitoris displaced to right side.
Extensive Paraurethral tear+, urethra displaced to right side and urethral opening could not be identified.
Posterior vaginal wall was intact.
Left vaginal mucosa tear +, episiotomy+
Bleeding++
Per rectal examination: rectal mucosa was intact

All routine investigations were sent. Urology reference was done for urethral injury. Patient was then shifted to OT for corrective surgery with plastic surgery, urology and orthopeadic standby. Urethral opening was identified and foley's catherization done. Anterior vaginal wall was repaired, left vaginal mucosal tear sutured and episiotomy sutured in layers. Haemostais achieved. Immediate post procedure pelvic binder was put by orthopeadic standby team and patient was shifted to CCU for further care. She received 2 PCV's and 4 FFP's in post op period. Patient was shifted to orthopeadic ward on day 4 of repair. Anterior internal fixation with plate and screws was scheduled by orthopeadic team.



Imaging

Standard AP pelvis radiograph should be obtained. On the evaluation of plain film imaging, pubic symphysis diastasis greater than 1 cm indicates a pathologic process of the pelvic girdle.The bilateral sacral iliac joints should also undergo evaluation on plain radiography for gapping or gross separation. A computed tomography (CT) scan with a three-dimensional reconstruction is also helpful in the further evaluation of the pubic symphysis and sacral iliac joints.

4. Discussion

PSD is a rarely encountered and often under reported complication of pregnancy. This makes it difficult to elucidate the associated high-risk factors, symptom complex and management algorithm.The orthopedic surgeon is presented with a difficult decision when managing thesepatients as the women are high-risk surgical candidates in the peri-pregnancy state andprolonged debility can affect their ability to care for their newborn.

The pubic symphysis is a cartilaginous joint which under mechanical pressure and the influence of hormones progesterone and realxin, relaxes by about 3-7mm starting from the first trimester of pregnancy (3). According to a study that assessed the dynamics of pubic symphysis during labor and postpartum, using ultrasonography, widening of symphysis too place in 59% to 94% parturients (4).

Traditionally as advocated by Hagen, a separation of more than 1cm postpartum is said to be pathological and defines symphysial diastasis. However, several studies have demonstrated that there is no definite correlation between magnitude of separation and severity of symptoms (5) (6).

Cowling et al, reported a case of a primigravida with separation of 5.4cm separation intrapartum, with a loud crack audible just before delivery coupled with severe low back pain and difficulty in leg raising and hip flexion that was treated using a pelvic brace. Their case was associated with precipitate labor and Mc Roberts maneuver. (7)

Primiparity and twin pregnancies were identified as risk factors in a study from South Korea. (8)

Many reports of operative management of daistasis including open reduction with internal fixation, external fixation and local infiltration and stabilization of the posterior pelvic ring using minimally invasive surgery have been reported.(9) (10). Common indications for operative management include traumatic rupture, failure of

conservative therapy, or persistence or recurrence of symptoms after puerperium. Parker et al, suggest that surgical correction should be offered if the daistasis is more than 3cm wide. (1). One case report has also report has also supported neuromodulation with spinal cord stimulator. (11)

We conclude that various high risk factors such as primiparity, abnormally greater or less duration of labor, shoulder dystocia, Mc Roberts maneuver, and epidural anesthesia are associated with the phenomenon of PSD. The magnitude of separation, however, does not correlate well with severity of clinical features. Management of each case has to be individualized. However, conservative therapy offers resolution of symptoms in majority of cases.

Discussions of multiple treatment options in the literature include non-operativetreatment with application of pelvic binder coupled with physical therapy and immediateweight-bearing, non-weight bearing with bedrest, closed reduction with application ofbinder, application of anterior external fixator with or without sacroiliac screw fixation, and anterior internal fixation with plate and screws.

An multidisciplinary team approach is essential in both early detection and treatment for satisfactory patient outcomes

5. Prognosis

The prognosis is very good for the majority of patients in most cases without persistent pubic pain. Follow up radiographs in most cases show near complete closure of the pubic symphysis and complete resolution of symptoms within 3 months. Some patients do require further physical therapy for up to 6 months. No significant long-term sequelae have been identified. No definitive recommendations exist regarding alteration of care for future pregnancies.

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