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Post Partum Pubic Symphysis Disruption Following Normal Full Term Vaginal Delivery: A Rare Case Report

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Abstract:

Minimal separation of symphysis pubis during pregnancy is considered to be physiological & caused by hormonally induced ligamentous laxity .Separation of more than 1 cm is thought to be pathological. Reports of incidence of diastasis after vaginal delivery have varied from 1 in 300 to 1 in 30000. We report a case of 30 yr old healthy primigravida who sustained postpartum diastasis of 7.3cm after a normal vaginal delivery which was spontaneous and uneventful. We treated her conservatively with bed rest and pelvic binder. Our emphasis is to lay down plan of management in such cases after a review of world literature of such cases & to delineate management plan of such cases from those with traumatic diastasis.

Key Words: Post partum, Pubic Symphysis disruption, full term vaginal delivery.

Introduction:

Minimal separation of symphysis pubis during pregnancy is considered to be physiological and caused by hormonally induced ligamentous laxity [1, 2]. Symphysis separation of more than 1 cm during pregnancy is usually associated with tenderness and difficulty in walking and is thought to be pathological. Reports of the incidence of diastasis after vaginal delivery have varied from 1 in 300 to 1 in 30000 deliveries [3-7]. The extent of symphyseal changes during pregnancy and delivery vary significantly. Such injury is thought to be caused by fetal head exerting pressure on pelvic ligaments which have been relaxed by hormones progesterone and relaxin. It occurs more commonly if manual pressure is applied to the pelvis in a latero-lateral, antero-posterior direction [8].

Case Report:

We report a case of 30 year old healthy women after a straight forward uncomplicated non-operative term vaginal delivery. She was a 30 year old primigravida with no previous medical or surgical history. She had an uneventful antenatal history and all her routine antenatal blood investigations and USG were normal. Her singleton pregnancy was carried to term.

She experienced a spontaneous onset of labour at 39 weeks of gestation. After an active phase of labour lasting 2 hrs, she progressed to full dilatation and started bearing down. Second stage lasted for 30 mins. And third stage for 5 mins. Newborn was healthy; birth weight was 3kg and length 42cms. Forceps and vaccum extraction were not used during delivery. It was complicated by grade III perineal tear which was primarily repaired by the local gynaecologist. A vaginal pack was inserted and blood was sent for blood count, coagulation profile and cross

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match and prophylactic antibiotics as Inj. Ceftriaxone and metronidazole was administered. Thirty minutes after delivery she developed severe pain over pubis symphysis and lower back with pain radiating to left leg.

Patient was referred to us after 2 days; a pelvic radiograph was done revealing a wide separation of symphysis pubis of 7.3cms [Fig. I]. A conservative approach to management was undertaken; patient was advised strict bed rest with application of a pelvic binder. After 6 days of delivery and after 4 days of reporting to us a CT scan with 2mm slice thickness was done which showed a separation of 4.3cms at pubic symphysis with intact sacro iliac joints [Fig. II]. Patient was further managed conservatively and weekly radiographs demonstrated further reduction in diastasis [Fig. III].

At latest follow up of 12 months post partum, patient was asymptomatic, callus was palpable over symphysis pubis without palpable defects or tenderness. Pelvis was stable on clinical examination. Motion of the hip joint, motor power of extremity was normal. Radiograph showed 1.5 cm of diastasis with callus formation [Fig. IV].

Fig I - Antero-posterior radiograph of the pelvis made on the 2nd day post partum showing 7.3cm seperation of symphysis pubis

Fig II - CT scan done on 6th day postpartum showing 4.3 cms separation of pubic symphysis

Fig III - 3 weeks post partum showing 2.5cm seperation of symphysis pubis

Fig IV- 3 months post partum showing 1.5cm seperation of symphysis pubis.

Discussion:

Delivery of a mature infant can result in injury of the pubic symphysis [9]. Elevated levels of progesterone and relaxin are responsible for increased elasticity of ligaments [6]. After delivery, the relaxation process is reversible; it returns to normal within 12 weeks postpartum. With restoration of normal ligamentous elasticity, pubic diastatis is resolved, and the pelvic ring is reestablished. Symphyseal separation of more than 10 mm is pathologic and indicative of rupture of the ligaments. Significant anterior separation of the public symphysis (>2.5cm) causes progressive injury to the posterior pelvic ring, including disruption of the SI joint or sacral fractures as well as injuries to the lumbosacral plexus [10, 11].

Clinically, patients present with typical symptoms and signs. The sudden onset of intense pain and feeling of separation over the pubic symphysis during delivery may be indicative of rupture rather than relaxation of public ligaments. Pain can be found over the SI joint and the inguinal area and in the deep pelvis and lumbar region. A palpable pubic diastatis, grating, and pain on bilateral trochanteric compression are pathognomonic. Additional symptoms suggestive of pelvic instability include intensified pain over the public symphysis provoked by mobilization and weight bearing, as well as increased pain

over the SI joint region with single leg weight stress or the Patrick test.

For diagnostic imaging, standard X-rays of the pelvis have to be done. CT scan with 2mm slice thickness provides additional information on extent of SI joint disruption, sclerosis, and bone cyst.

Treatment of choice for postpartum symphysiolysis is conservative. Application of an external pelvic binder exerts sufficient lateral compression to effectively close the public diastasis. Temporary immobilization and bed rest supported by well titrated pain medication often alleviate symptoms. Recovery from symphysiolysis can be expected within 6 weeks [11, 12]. Surgical treatment of peripartum pelvic complications is a therapeutic option when conservative treatment has failed to control severe pain symptoms.

Shuler and colleagues [13] reported the successful treatment of postpartum pelvic pain by surgical stabilization using anterior public symphysiodesis and Sacroiliac (SI) joint anthrodesis with cannulated screws. Surgical treatment is recommended for proven pelvic instability. Extensive anterior separation of the pubic symphysis and vertical instability of the dorsal pelvic ring causing pelvic dislocation require internal fixation [3, 14]. The 4 Hagen criteria for instability that necessitates internal fixation are public diastasis of more than 1cm, vertical shift of more than 5mm, widening of SI joint, and para–articular sclerosis of the SI joint [11]. Some authors base decision making on the extent of public diastatis in injuries with public diastatis exceeding 4cm. Kharrazi and colleagues [11] recommended formal examination of symphyseal and SI joint stability under anesthesia. For rotationally stable pelvic ring injuries, ORIF of the pubic symphysis with anterior plating but without prophylactic SI arthrodesis is indicated. In patients with public separation of less than 4cm, conservative treatment with binder and bed rest was the treatment of choice.

Pubic symphysis disruption of such severity is a very rare complication of unobstructed full term normal vaginal delivery. Even after 7.3cm separation at initial presentation we were able to treat patient conservatively with gratifying result because we initiated early pelvic compression by pelvic binders and Sacroiliac joint integrity as demonstrated by CT scan.

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