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Symphysis Pubis Diastasis Following Difficult Vaginal Delivery

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Original Research Article

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Abstract: Symphysis pubis diastasis is development of a gap of more than 10 mm between the two pubic bones. The reported incidence varies from 1 in 300 to 1 in 30,000 deliveries .Mild separation (up to 5 mm) of the symphysis pubis during pregnancy is considered physiological. Separation of more than 10 mm is usually associated with tenderness and difficulty with walking, and is thought to be pathological. Factors contributing to rupture of the symphysis pubis joint during vaginal delivery are poorly defined. It 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 can 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 .A case of traumatic postpartum haemorrhage(PPH) with gross pubic bone diastasis is reported ,who presented in an emergency as traumatic PPH and severe soft tissue trauma to lower genital tract and pubic symphysis. Patient recovered completely without any residual morbidity following surgical fixation of joint.
Keywords: Symphysis pubis diastasis, Complications of second stage of labour

INTRODUCTION

Symphysis pubis diastasis is development of a gap of more than 10 mm between the two pubic bones. The reported incidence varies from 1 in 300 to 1 in 30,000 deliveries [1, 2]. Mild separation (up to 5 mm) of the symphysis pubis during pregnancy is considered physiological. Separations of more than 10 mm are usually associated with tenderness and difficulty with walking, and are thought to be pathological[3].

Factors contributing to rupture of the symphysis pubis during vaginal delivery are poorly defined. It 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 can 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 [4] A case of traumatic postpartum haemorrhage(PPH) with gross pubic bone diastasis is reported ,who presented in an emergency, as traumatic PPH and severe soft tissue trauma to lower genital tract and pubic symphysis. Patient recovered completely following surgical fixation of joint.

CASE REPORT

A 30 year old woman, second para, was referred from private nursing home as a case of postpartum haemorrhage following vaginal delivery. There was a history of prolonged second stage of labour in which a fundal pressure was applied by attending person to expedite the decent of head in second stage of labour. Patient gave history of snapping and feeling of giving away sensation suddenly after birth of the baby. Patient developed postpartum haemorrhage. The doctor attending delivery tried to control PPH, but found abnormal soft tissue injury, so referred her to medical college hospital for further management.

Patient complaint that she had severe pain in hip region, while moving her trunk since delivery. She had delivered a male baby weighing 3748 grams with APGAR 7, 8, 9 and head circumference measuring 34.8cm. On examination, patient was conscious and oriented, grossly pale with tachycardia of 120 /min and BP 100/70 mm Hg .Per abdominal examination revealed 20 weeks size well contracted uterus which was non tender.

Per speculum examination revealed active bleeding with multiple lacerations over the vaginal wall.

The anterior and lateral vaginal wall on right side was completely avulsed exposing the surface of the urinary bladder. (Fig 1)The urethra was avulsed and external urethral meatus could not be located. There was active bleeding from the avulsed area. There was no cervical tear. A big gap between two pubic rami was noticed on palpation. Edges of the torn vagina were identified. Active bleeding from trauma site was controlled by haemostatic sutures. Urethra could be identified and bladder catheterized. Vaginal tear and lacerations were sutured in layers. Complete haemostasis achieved. (Fig 2) Intraoperative orthopaedic consultation was done. Orthopaedic surgeon suggested conservative line of management for pubic symphysis diastasis. Postoperative X-ray revealed severe diastasis (50mm) of symphysis pubis (Fig. 3) Patient had good recovery following surgery, except for the problem of pain and instability of symphysis pubis, in spite of pelvic girdle strapping.

Patient was discharged and followed up on OPD basis. Pelvic binder was given along with bed rest for 45 days. As there was no significant improvement in the condition, open reduction and internal plate fixation of pubic rami was done. Patient made good recovery and is leading a normal life.

Fig-1: Showing severe vaginal lacerations

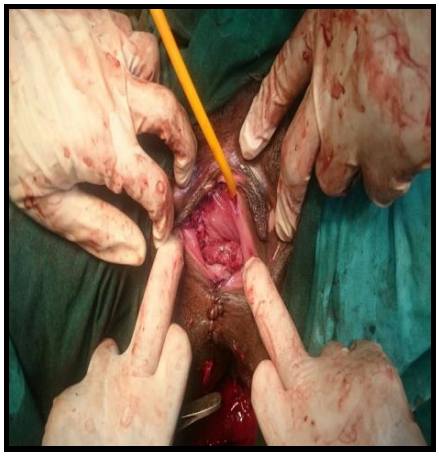

Fig-2: Showing restoration of disturbed anatomy

Fig-3: Pelvic X-ray showing severe diastasis of pubic symphysis

DISCUSSION

The pubic symphysis is a midline, no synovial amphiarthroidal, fibrocartilaginous joint that connects the superior pubic rami. The joint is reinforced by four ligaments; superior, inferior, anterior and posterior pubic ligaments. Women have a greater thickness of the fibro-cartilaginous disk which allows more mobility of the pelvic bones, providing for a greater pelvic diameter to facilitate childbirth. During pregnancy, under the influence of hormones, particularly Relaxin, the gap in the symphysis pubis can increase by atleast 2-3mm[6]. Symphysis pubis diastasis is defined as separation of the joint, without fracture. It is a condition that allows excess lateral or anterior movement about the symphysis pubis and can result in Symphysis pubis dysfunction. It is most commonly associated with pregnancy and childbirth, though external trauma may occasionally be a culprit in pubic symphysis diastasis the gap between the joint is more than 10mm[7]. This may result from rapid or prolonged vaginal birth or assisted delivery. If there is complete separation or traumatic tear, there will be complete instability of the joint. The abnormal widened gap can cause significant pain followed by inflammation and swelling. In the supine position a patient's legs will involuntarily move apart. When this condition is encountered, further investigation to check for involvement of sacroiliac joints is required. The SI joints may be bilaterally or unilaterally involved.

Diagnosis can be made on multiple imaging studies. On radiographs there is abnormally wide gap between the pubic bones, as seen in this case. Further instability may be demonstrated on standing/ flamingo position films[7]. On standing films, a vertical displacement of >1cm indicates instability of the SP;>2cm is highly associated with SI joint involvement. Cross sectional studies of MRI and CT can show detailed information of symphysis pubis with SI joint involvement.[7] There is no overwhelming evidence in the medical literature to support a particular treatment. However, it is treated commonly by conservative therapy, by using a brace/ pelvic binder and muscle strengthening. Analgesics and anti inflammatory medication is used to treat the pain, as required. On occasion women may benefit from physiotherapy. In severe cases, orthopaedic surgical consultation and operative fixation of pelvis may be necessary [1, 5].

CONCLUSION

Traumatic diastasis of symphysis pubis is a rare condition in modern Obstetrics. It usually follows prolonged second stage of labour in a large size baby or improper conduct of second stage of labour. Intelligent anticipation of baby weight and pelvic adequacy, careful conduct of second stage of labour, avoidance of difficult instrumental deliveries and avoidance of fundal pressure in cases of cephalo-pelvic disproportion can go a long way in preventing this injury.

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