

Case Report

Physiotherapy Management of Sub-acute Post-partum Diastasis of Pubic Symphysis: A case report

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ABSTRACT

A thirty-five year old woman who complained of excruciating pain in the pelvis, the right hip and the lower back region, associated with inability to stand or walk without extreme discomfort, was referred to the in-patient physiotherapy department of the Lagos University Teaching Hospital. A working clinical and radiological diagnosis of post-partum pubic diastasis was made by the referring physician. She had had a safe vaginal delivery of a 4.3kg female child about six weeks earlier. Though her two previous deliveries were by caesarian section, she had refused surgery this time and opted for a vaginal delivery.

Before presentation, the patient had been placed on bed rest for 5 weeks with no physiotherapy intervention at the referring hospital and without any significant improvement in her pain and disability profiles.

Subsequent management with conservative physiotherapy, using pain modulating treatment combined with bed rest for 4 weeks, resulted in very significant improvement in pain, mobility, and gait.

Key words: symphysis pubis, diastasis, physiotherapy

INTRODUCTION

The pelvic bones are joined together anteriorly by the

symphysis pubis. This structure consists of fibrocartilage and the superior and inferior pubic ligaments.⁷ Diastasis symphyseal pubis, that is, separation of the pubic symphyseal bones, is an uncommon event which may occur during delivery as a result of rapid birth,⁶ or forceps delivery, in late pregnancy or even post-natal.⁹

The reported incidence of post-partum diastasis symphysis pubis varies between 1 in 521 to 1 in 30,000 deliveries⁵ and 1 in 600 to 1 in 3400.^{5,11}

The normal physiology of childbirth involves an escalation in the levels of relaxin and progesterone which facilitate the relaxation and consequent widening of the birth passage in labour.¹¹ Diastasis pubis has been previously reported in both obstetric and orthopaedic literatures and the favoured treatment option is a conservative approach.^{1,5,8}

CASE REPORT

An in-patient physiotherapy referral was received for a 35-year-old woman with a diagnosis of post-partum diastasis pubis.

History

The patient reported that following safe vaginal delivery (SVD) 6 weeks earlier at the referring hospital, she found that she was unable to stand or walk due to excruciating pain felt within her pelvis, the right hip and the lower back regions. Her baby's

birth weight was 4.3kg and the birth was recorded as difficult with some fundal pressure. She admitted to feeling pain in the same region during her antenatal period but insisted that it never led to any disability or functional limitation.

Shortly after she felt pain, she was diagnosed with diastasis symphyseal pubis and subsequently she underwent 5 weeks of bed rest which was the mode of therapy at the referring hospital. There was no form of physiotherapy referral or intervention.

However, the patient found out that after 5 weeks she was still unable to walk and the pain was still severe. This led to her referral to our hospital for further specialist management.

Clinical Examination/Physical Findings

The patient complained of pain along the anterior and proximal region of the right hip, which sometimes 'went through the hip'. She described the pain as aching and throbbing with an occasional sharp or stabbing sensation when she made attempts to stand or walk. She also complained of pain in her lower back region. Past medical history revealed that the patient had undergone two caesarian sections during her previous deliveries (this was her third child). Previous deliveries were uneventful and her drug history revealed nothing of note.

Initial examination showed that the patient had walked into the consulting room with an unsteady gait. Breathing was normal. Muscle power in both lower limbs was grade 4 (Oxford Muscle Grading System), while the upper limb muscle strength was 5 bilaterally. Passive and active ranges of motion were full in all joints of the left lower limb but the active range was significantly reduced in the right lower limb during active hip flexion. Sensory nerves were intact and reflexes were normal. On a visual analogue pain scale (VAS), the patient described her pain as 10 out of 10.

Following a careful objective examination, a decision was taken by the referring orthopaedic surgeon to place the patient on skin traction with 5kg weight to both lower limbs whilst supine for two weeks (to assist patient to have strict bed rest).

Further musculoskeletal tests/x-ray showed anterior pubic symphyseal tenderness. A positive

sacroiliac joint stress test (pelvic compression, pelvic distraction and 'figure of four' tests), and an X-ray were carried out. Findings (pelvis / right hip) showed pubic symphysisdiastasis of 20mm with normal pelvic symmetry. The right hip joint showed normal alignment, bone density and joint space.

Physiotherapy Treatment

Patient was seen by the physiotherapist twice daily and the treatment comprised:

1. bed rest
2. deep breathing exercises
3. isometric quadriceps contraction exercises
4. ankle pump exercises
5. cryotherapy
6. soft tissue manipulation to the low back and right hip regions
7. transcutaneous electrical nerve stimulation to the low back and right hip regions
8. ward programmes

The patient later had to wear a lumbosacral corset preparatory to ambulation, to restrict movement in the pelvic area when skin traction was discontinued.

TREATMENT EVALUATION

The evaluation of the patient's response to the physiotherapy treatment was based on the following basic measures of treatment outcome; (1) pain response using the visual analogue scale, (2) functionality using the active range of right hip flexion, (3) radiological evidence of the degree of diastasis (in mm), and (4) gait assessment while walking.

These outcomes were evaluated at the end of two, three, and four weeks of routine physiotherapy treatment.

RESULTS

End of 2nd week

- Low back pain had significantly subsided
- Anterior pubic symphyseal pain had gone down appreciably
- Pain in the right hip region had reduced slightly.

- Patient's pain perception on the visual analogue scale was now 5.5 out of 10.

End of 3rd week

- Moderate improvement in the active range of motion of the right hip joint.
- Sitting re-education was commenced.
This was progressed to standing re-education the following day.
- Pain modulation using TENS and cryotherapy was continued.

An early pressure sore was noticed to be forming at the right gluteal region. Patient was encouraged to gently turn after every 2 hours.

Further active muscle contraction exercises were taught to the patient.

End of 4th week

Walking re-education was commenced with the aid of a walking frame. A repeat X-ray was done which showed a significant reduction of the diastasis to only 3 mm. The patient was subsequently discharged after a gait assessment session and re-education by the physiotherapist.

Two-week follow up sessions were conducted at the physiotherapy out-patient department for a period of six weeks, after which the patient reported 0 pain on the VAS pain scale and her normal gait had been restored.

DISCUSSION

The normal physiology of childbirth leads to an escalation of the levels of relaxin and progesterone, which facilitate the relaxation and consequent widening of the birth passage. This predisposes to symphyseal diastasis secondary to childbirth.

It is important to use the correct term 'diastasis' rather than 'disruption'. Diastasis would indicate an exaggeration of the normal, which it does in fact appear to be. This is validated by the fact that it responds very well to conservative treatment, especially in the early weeks post-delivery, also the time required when the maternal relaxin and

progesterone return to normal non-pregnancy levels. If it were a disruption (traumatic), i.e., an inter-pubic distance of > 2.5 cm classified as a 'Type II open book' injury,¹³ then it would not heal with conservative treatment. Conversely however, several studies have shown that even such degrees of diastasis are amenable to conservative management.^{1,4,5,10}

Although the symptoms of diastasis symphysis pubis are dramatically severe in presentation, a conservative management approach is widely preferred.⁸ Recurrent separation of the symphysis pubis could occur during subsequent deliveries but this is generally not worse than the first occurrence. It would still be amenable to conservative treatment, thereby resulting in a good prognosis. There does not appear to be any correlation between the extent of interpubic diastasis and the final outcome.^{10,11}

The injury is often caused by the foetal head exerting pressure on the pelvic ligaments that have been weakened or relaxed by the hormones progesterone and relaxin.⁵ In a particular study, extensive traumatic separation of the symphysis pubis was thought to have resulted from a very forceful descent of the foetal head against the pelvic brim as a result of an accidental fall by the mother.⁴

Computerized tomography, pelvic x-rays and perineal ultrasonography as well as clinical findings can be used in diagnosing the condition.⁸ The above case definitely benefited from physiotherapy as shown by the gradual reduction in pain intensity and subsequent ability to walk (though initially with a walking aid). It should also be noted that she spent a shorter time recovering with physiotherapy than she did when she had bed rest alone at the original hospital. This clearly indicates the importance of physiotherapy when sometimes combined with ligamentous relaxation and when pelvic strain becomes so pronounced that it may result in permanent diastasis of the pubic symphysis with persistent symptoms and morbidity.⁷ It could therefore be implied that early physiotherapy intervention is imperative in order to take optimal advantage of the early hormonal resolution effect in post partum diastasis.^{1,4,5,10}

CONCLUSION

Diastasis pubis is an uncommon injury that physiotherapists should consider when assessing patients in the ante-natal or post-natal period who complain of pain along the suprapubic, sacroiliac or thigh regions. Though the symptoms and clinical presentation are gross and may be incapacitating, conservative physiotherapy approaches are very effective.

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