

Impact of Structured Treatment Protocol on Pubic Symphysis Pain in Third Trimester of Pregnancy: A Case Report

Dr. Manali Kulkarni (MPT)₁, Dr. Manasi Sukhtankar (MPT)₂

Dr. Manali Kulkarni (MPT) Assistant Professor Tilak Maharashtra Vidyapeeth, Pune-37
Manapkulkarni1194@gmail.com

Dr. Manasi Sukhtankar (MPT) Assistant Professor Tilak Maharashtra Vidyapeeth, Pune-37
Manasiomkar712@gmail.com

Abstract

Background: pubic symphysis is one of the common problems in second and third trimester of pregnancy. As pubic symphysis presents with severe pain while performing day to day activities and also affects significantly on quality of life in antenatal period hence it becomes crucial to study effect of different treatment protocols in pubic symphysis pain in third trimester of pregnancy.

Objective: To study the effect of structured treatment protocol for a female with pubic symphysis pain in third trimester.

Case presentation: A 32 year old primiparous women with 28th week of gestation referred to physiotherapy for pubic symphysis pain and upper back pain with difficulty in doing day to day activities. Structured physiotherapy treatment protocol was given after complete assessment for four sessions a week for four weeks and Pre post data was collected.

Conclusion: The structured treatment protocol including instrument assisted soft tissue mobilization with conservative physiotherapeutic protocol seems to be effective in the treatment of pubic symphysis pain and dysfunction associated with it.

Introduction

During pregnancy there are numerous changes happening in female's body including endocrine, nervous, hormonal, musculoskeletal and physiological changes. The adaptive changes make it possible for proper development of fetus. These changes are more prevalent in osteoarticular and musculo – ligamento–fascial structures. These all changes are meant to have considerable effect on broadening space inside the pelvic ring and it specifically increases the transverse diameter to offer good fetal development and safe, comfortable delivery.¹

Parting of pubic symphysis means the dislocation of pubic fibrocartilages on either sides of pelvis in pregnancy and external forces.² In pregnant or postpartum women, usually because of physiological and musculoskeletal changes there are problems like soft tissue injuries such as widening of pubic symphysis. It can be also associated with pain, trouble in lifting or moving lower limbs as well as difficulty in day to day activities. If the gap between pubic symphysis which is more than 10 mm and the patient also complains of clinical symptoms along with it during pregnancy can be considered as

pubic symphysis diastasis.² Kubitz et al reported an incidence of 1/300 and Kane et al reported an incidence of 1/30000.^{3,4}

The common symptoms of pubic symphysis diastasis or dysfunction are pain which is localized in area of pubic bones that gets worse when patient is doing movements like abduction of hip, walking, lifting heavy weights, rolling in bed or stair climbing.^{5,6}

Case report:

28 weeks Pregnant 32 year old housewife presented with prepartum anterior pelvic pain in her pubic symphysis (worse on right) pain with standing and side turning in bed and hip abduction. Patient had upper back pain also. The pain was present since 15 days (two weeks) and was constant throughout the course. She had no prior occurrence of this type of pain as this was her first pregnancy. The pain intensity was 7 out of 10 on visual analogue scale. The pain was aggravating in nature and was disturbing her day to day activities like ambulation, stair climbing, side lying, rolling over in bed. She feels relieved in supine and crook lying position. There were no diurnal variations present. She also complained about upper back pain which was present in long standing and long sitting positions.

The previous history suggests no musculoskeletal pain or any history of miscarriage and abortion. Patient is on supplements with vitamin D, calcium and folic acid. Patients also consume diet which is appropriate in antenatal period. She reported no significant medical and surgical history as well as family history. She performs light exercises as stretching, general mobility exercises and walking for 30 minutes five times a week. While doing light exercises she gets pain in abduction.

Postural observation suggested that she had forward head posture with rounded shoulders (Protruded posture), lordotic back posture, and waddling gait. In the examination part patient had tenderness on palpation, active SLR was painful and limited ROM also trendelenburg's sign is positive with adductor tightness and abductor weakness. The examination done for upper back pain included local palpation for tenderness, movement assessment and neck range of motion which was affected.

Structured treatment protocol

Structured treatment protocol included icing for 20 minutes twice a day on pubic symphysis joint along with M²T blade treatment which included release of adductors and exercises for hip stability, pelvic muscle strengthening given for 10 repetitions followed for 3 sets. Pelvic support belt was used for 7-8 hours a day. For upper back pain, neck stretches, wall pushups, pectoral stretches, scapular strengthening, shoulder shrugs were given for 10 repetitions followed for 3 sets.

After treatment given for 4 times a week for 4 consecutive weeks the patient was better in terms of pain, range of motion and strength. Upper back pain was also significantly reduced. Movements were better and mobility was improved while performing day to day activities.

Discussion

In present case report we found that there was significant improvement in terms of pain and movements after structured treatment protocol in pubic symphysis pain in antenatal period. Pain was more on right side and was more significant in doing ambulation, turning in bed and abduction activities. The treatment included M²T blade Mobilization. M²T blade is type of IASTM which is

double beveled tool and has eight distinct points with 14 different edges.⁶ Practitioners can use this instrument for assessment and treatment.⁷ IASTM instruments are used in multidirectional stroking patterns to the skin in 30°- 60° angle. This is done to detect soft tissue regularities via the undulation of tool.⁸

According to the study done by Emily R. Howell the symptoms explained were abduction activities, turning in bed, stair climbing, pain in activities of daily living which is similar to complaints given in presented study.⁹ The aetiology can be varied but in our present study it can be biomechanical strains of the pelvic ligaments and associated hyperlordosis, also it can be associated with increased fetal and pregnancy-related weight gain as in our case report the weight gain was significantly associated with pain. As the pregnancy advanced the intensity of pain was also noticed to be advancing.¹⁰

Structured physiotherapeutic protocol helps to reduce pain and improve the mobility of the patient in terms of activities of daily living. The reason for reduction in pain as well as improvement in mobility can be due to release given by M²T blade on adductor group of muscles as adductor group of muscles go into tightness because of pain in pubic symphysis region with weakness in abductor group of muscles.

Much of the research states that individualized physical therapy has shown to lead to better functional outcomes and reduction in pain, but many of the articles do not specify what exercises are prescribed, the dose and the reasons they are chosen.¹¹

In present study we found the significant reduction in pain and in the study we gave group of exercises such as static exercises, strengthening exercises, as well as stretching exercises for pubic symphysis and upper back pain so in present study we can say that those particular exercises along with other structured protocol with IASTM was helpful and significant and can be given in conditions of pubic symphysis pain.

Conclusion

The structured treatment protocol including instrument assisted soft tissue mobilization with conservative physiotherapeutic protocol seems to be effective in the treatment of pubic symphysis pain and dysfunction associated with it.

References

1. Yoo JJ, Ha YC, Lee YK, Hong JS, Kang BJ, Koo KH. Incidence and risk factors of symptomatic peripartum diastasis of pubic symphysis. *Journal of Korean medical science*. 2014 Feb 1;29(2):281-6.
2. Shnaekel KL, Magann EF, Ahmadi S. Pubic symphysis rupture and separation during pregnancy. *Obstetrical & gynecological survey*. 2015 Nov 1;70(11):713-8.
3. Kubitz RL, Goodlin RC. Symptomatic separation of the pubic symphysis. *Southern medical journal*. 1986 May 1;79(5):578-80.
4. O'kane JW. Anterior hip pain. *American family physician*. 1999 Oct 15;60(6):1687.
5. Jain S, Eedarapalli P, Jamjute P, Sawdy R. Symphysis pubis dysfunction: a practical approach to management. *The Obstetrician & Gynaecologist*. 2006 Jul;8(3):153-8.

6. Wang Y, Li YQ, Tian MR, Wang N, Zheng ZC. Role of relaxin in diastasis of the pubic symphysis peripartum. *World Journal of Clinical Cases*. 2021 Jan 6;9(1):91.
7. Huag C, Holfeild J, Schaden W, Orgill D, Ogawa R (2013) Mechanotherapy revisiting physical therapy and recruiting mechanobiology for a new era in medicine. *Trends Mol. Media*: 555-564
8. DeLuccio J. Instrument assisted soft tissue mobilization utilizing graston technique: a physical therapist's perspective. *Orthopaedic physical therapy practice*. 2006;18(3):32.
9. Howell ER. Pregnancy-related symphysis pubis dysfunction management and postpartum rehabilitation: two case reports. *The Journal of the Canadian Chiropractic Association*. 2012 Jun;56(2):102
10. Wellock V. The ever widening gap—Symphysis pubis dysfunction. *British Journal of Midwifery*. 2002 Jun;10(6):348-53.
11. Stuge B, Hilde G, Vollestad N. Physical therapy for pregnancy-related low back and pelvic pain: a systematic review. *Acta Obstet Gynecol Scand*. 2003;82(11):983–990.