

Postpartum Symphyseal Separation: A Case Report

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Received: October 09, 2024; **Published:** November 11, 2024

Abstract

Introduction: Symphysis pubis diastasis (SPD) following childbirth is a rare but potentially debilitating complication, often characterized by lower abdominal pain and mobility issues. While typically associated with traumatic deliveries or instrumental interventions, spontaneous vaginal delivery (SVD) can also predispose individuals to this condition.

Through detailed clinical description and therapeutic approach, we aim to contribute to the understanding and management of this uncommon yet clinically significant condition.

Case Description: The patient is a 29-year-old female, para 2, who presented on the second day post (SVD) with complaints of intense lower abdominal pain centered around the symphysis pubis area and difficulty in movement. Notably, there were no reported respiratory, urinary, or bowel symptoms, and the patient described normal lochia.

Physical examination revealed a temperature of 38.1°C, heart rate of 112 bpm, and a soft abdomen. Suprapubic oedema, bruising and tenderness.

Diagnostic Assessment: Laboratory investigations, with elevated white blood cell count (WBC) of 17 and CRP levels of 213.

The pelvic X-ray revealed widened pubic symphysis and diastasis, while MRI confirmed diastasis with a presumed hematoma, ruling out osteomyelitis and soft tissue oedema. Additionally, orthopaedic consultation guided subsequent management decisions.

Treatment and Outcome: Upon confirmation of symphysis pubis diastasis (SPD) and associated sepsis, the patient underwent prompt initiation of sepsis protocol, including intravenous clindamycin, ciprofloxacin, and Hartmann's fluid administration. Additionally, physiotherapy was initiated to address mobility difficulties and facilitate recovery.

By day 3, the patient demonstrated signs of improvement, with reduced diastasis observed on MRI, suggestive of resolving hematoma. Despite persistent mobility issues attributed to an infected symphyseal hematoma, conservative management was pursued, avoiding the need for drainage or surgical intervention.

By day 9, the patient reported pain improvement, and inflammatory markers showed a downward trend, with C-reactive protein levels decreasing to 80.

The patient's clinical course demonstrated favourable response to antimicrobial therapy and conservative management strategies. Long-term follow-up may be warranted to assess for potential sequelae and optimize rehabilitation outcomes.

Conclusion: MDT including sepsis protocol initiation, orthopaedic consultation, and physiotherapy, facilitated comprehensive assessment and targeted therapeutic interventions. Follow-up assessments demonstrated a favourable response to antimicrobial therapy, with resolution of sepsis and reduction in inflammatory markers. Conservative management of the infected symphyseal hematoma was successful, obviating the need for invasive interventions. However, persistent mobility issues underscore the importance of long-term rehabilitation and monitoring for potential sequelae.

Keywords: *Symphysis Pubis Diastasis (SPD); Spontaneous Vaginal Delivery (SVD); C-Reactive Protein*

Introduction

A pubic symphysis diastasis PSD is defined as an abnormal increase in pubic symphysis diameter required for successful spontaneous vaginal delivery, typically more than 10 mm, which is usually associated with severe pain [1]. PSD is reported to occur in approximately 1 in 300 to 1 in 30,000 cases, with many instances likely remaining undiagnosed [2].

The symptoms of this condition include severe suprapubic pain, which often worsens with movement or weight-bearing activities and may radiate to the groin, lower back, and legs [3].

Multiple risk factors have been documented associated with the disease, including a narrow pelvic outlet, increased gestational weight, prolonged or rapid second stage of labor, and previous trauma to the pelvis [2].

The clinical management of SPD primarily involves conservative approaches, such as bed rest in the lateral decubitus position, the use of a pelvic girdle, walking aids, and gradual mobilization. Surgical intervention is advised only when the diastasis exceeds 4 cm or when rapid weight-bearing is necessary post-delivery [4].

Case Presentation

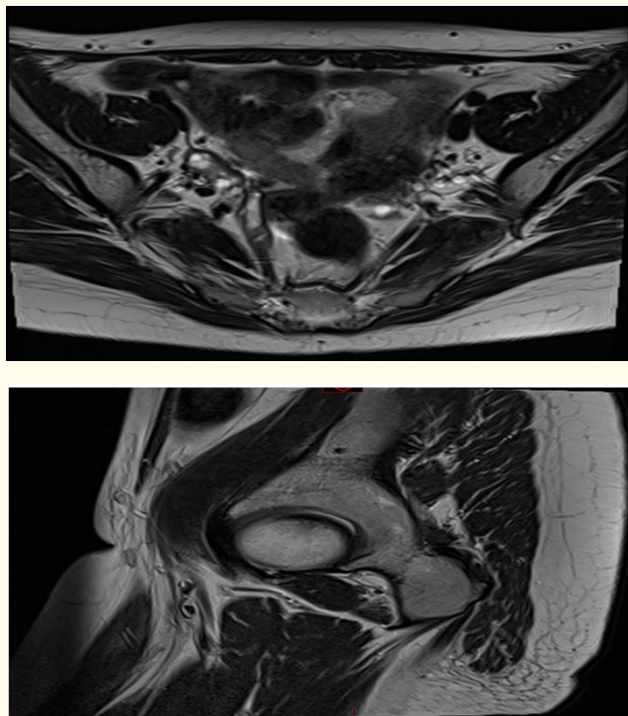
Patient information and presenting symptoms

The patient, a 29-year-old female, para 2, presented on the second day post-spontaneous vaginal delivery (SVD) with intense lower abdominal pain centered around the symphysis pubis area. This pain, which was severe, constant, and worsened by movement, significantly limited the patient’s ability to perform daily activities and move comfortably. No respiratory, urinary, or bowel symptoms were reported, and the patient described normal lochia. Her obstetric history includes two spontaneous vaginal deliveries, with no complications reported during the current pregnancy or the recent delivery.

On physical examination, the patient had a temperature of 38.1°C, a heart rate of 112 bpm, and a soft abdomen. Laboratory investigations, including a complete blood count and C-reactive protein (CRP) levels, indicated systemic inflammation and sepsis, with an elevated white blood cell count (WBC) of 17 and CRP levels of 213.

Imaging investigations were performed. A pelvic X-ray was ordered for further evaluation of the condition and revealed a widened pubic symphysis and diastasis. Subsequently, Magnetic Resonance Imaging (MRI) was requested to assess further the extent of pubic symphysis diastasis and associated complications. MRI confirmed diastasis with a presumed hematoma, ruling out osteomyelitis and soft tissue edema. The Orthopedic Surgery department was consulted for the assessment of the musculoskeletal condition and subsequent management decisions.

Test	Result	Normal Range
Complete Blood Count (CBC):		
White Blood Cells (WBC)	17 x 10 ⁹ /L	4.0 - 11.0 x 10 ⁹ /L
Hemoglobin (Hb)	11.8 g/dL	12.0 - 15.5 g/dL
Hematocrit (Hct)	36%	37% - 47%
Platelets	320 x 10 ⁹ /L	150 - 450 x 10 ⁹ /L
Inflammatory Markers:		
C-Reactive Protein (CRP)	213 mg/L	<10 mg/L
Electrolytes:		
Sodium (Na)	137 mmol/L	135 - 145 mmol/L
Potassium (K)	4.3 mmol/L	3.5 - 5.0 mmol/L
Chloride (Cl)	102 mmol/L	96 - 106 mmol/L
Bicarbonate (HCO ₃)	22 mmol/L	22 - 28 mmol/L
Renal Function:		
Blood Urea Nitrogen (BUN)	4.2 mmol/L	2.5 - 7.1 mmol/L
Creatinine	60 µmol/L	45 - 84 µmol/L
Liver Function Tests (LFTs):		
Aspartate Aminotransferase (AST)	28 U/L	10 - 40 U/L
Alanine Aminotransferase (ALT)	22 U/L	7 - 56 U/L
Alkaline Phosphatase (ALP)	78 U/L	44 - 147 U/L
Bilirubin Total	8 µmol/L	3 - 17 µmol/L



Figure

Treatment

The patient's treatment commenced with the management of sepsis, where intravenous clindamycin (600 mg every 8 hours) and ciprofloxacin (400 mg every 12 hours) were initiated based on the initial sepsis protocol of the hospital, with subsequent adjustments made according to culture sensitivity results. Fluid resuscitation was provided using Hartmann's solution, titrated to maintain hemodynamic stability and appropriate urine output while monitoring for fluid overload or dehydration. The pain was managed through the administration of oral analgesics paracetamol and ibuprofen, and opioid analgesics like codeine were added as needed for severe pain.

The patient's pain levels were regularly assessed to ensure adequate relief, and inflammatory markers, including CRP and WBC counts, were closely monitored to guide further adjustments in antimicrobial therapy based on clinical progress.

In addition to medical management, a tailored physiotherapy program was initiated to improve joint mobility, strengthen pelvic floor muscles, and enhance overall function. This program included exercises aimed at gradual weight-bearing and functional movement. Mobility aids, such as a walker or crutches, were recommended to reduce strain on the pelvis and facilitate safe movement. Follow-up assessments were scheduled to monitor the patient's progress.

On day 3 follow up, CRP and WBC were requested again which revealed raising CRP from 213 to 390 and WBC from 17 to 23. An MRI also again was done which showed reduced diastasis. Given the resolving hematoma and improved diastasis observed on MRI, surgical intervention was avoided, and conservative management was pursued. The patient was regularly reassessed to ensure that no further intervention was necessary. Additionally, the patient received education on recognizing symptoms of worsening infection, signs

of complications, and the importance of adhering to follow-up schedules. Information on pelvic support and care strategies was also provided to support her recovery.

By day 9, the patient reported significant pain relief, and there was a notable reduction in inflammatory markers, with CRP levels decreasing to 80 mg/L. Physiotherapy was continued, and the patient's clinical progress was closely monitored. Long-term follow-up appointments were arranged to monitor for potential residual effects or complications related to SPD. A rehabilitation plan was developed, emphasizing continued physiotherapy to enhance strength, flexibility, and functional recovery. This plan involved coordination with a multidisciplinary team, including physiotherapists, occupational therapists, and potentially a specialist in musculoskeletal disorders, to ensure holistic and effective care.

Discussion

PSD is considered one of the rare childbirth complications that can occur before delivery, during delivery, or most commonly within 48 hours postpartum. Normally, the pubic symphysis has a radiographic separation of 4 to 5 mm. During pregnancy, hormonal and physiological changes can cause this gap to widen by 2 - 3 mm, and it may remain enlarged after delivery, a condition known as physiological pubic symphysis diastasis. In some cases, vaginal delivery can result in a joint widening of more than 10 mm, which is diagnostic of and defined as pathological pubic symphysis diastasis [5]. However, several studies have demonstrated that there is no definite correlation between the magnitude of separation and severity of symptoms.

The diagnosis of PSD is usually clinical, but imaging such as X-ray, ultrasound, and MRI are used to confirm it and to evaluate the width of the diastasis. Current literature suggests three clinical tests that are highly valued for their specificity and sensitivity: tenderness in the specific joint area on palpation, a positive Patrick's FABER test, and a positive Trendelenburg sign [6]. In our case, we observed severe tenderness upon palpation of the pubic joint, and it was the only test we performed.

There are many differential diagnoses, but the condition most commonly mistaken for PSD is osteomyelitis or septic arthritis of the pubic symphysis. While these conditions share similar clinical symptoms, such as pain in the pubic area, difficulty with walking, and pain during hip movement, there are key differences. In osteomyelitis or septic arthritis, significantly elevated leukocyte levels, C-reactive protein levels, and erythrocyte sedimentation rates (ESR) may support the diagnosis, whereas PSD typically presents with only mild elevations [1]. Another important difference can be observed in imaging studies, where conditions like osteomyelitis or septic arthritis may show abscess formation on ultrasonography and sclerosis combined with osteolytic changes on X-rays [7]. In our case, the absence of these radiological signs, along with the patient's history and clinical examination, confirmed our diagnosis.

Early recognition of symptoms and accurate diagnosis are crucial for initiating early treatment plan, which can help slow the progression of the condition [5].

Conclusion

PSD is an uncommon condition and it should be considered a differential diagnosis in any peripartum woman presenting with suprapubic, groin, or lower back pain. In our case, the diagnosis was made clinically and confirmed by imaging, with conservative management successfully implemented, avoiding the need for surgical intervention.

Management requires a multidisciplinary approach. Conservative management, including pain control, physical therapy, and activity modification, should be the first line of treatment, as it can lead to full recovery without invasive procedures. There is a pressing need for increased awareness among clinicians about PSD, particularly due to its often-under-reported nature and the potential for confusion with other more common conditions like osteomyelitis or septic arthritis. Furthermore, more research is needed to establish how to prevent this condition.

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Volume 13 Issue 11 November 2024

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