



## DEVELOPMENTAL DYSPLASIA OF HIP: A CLINICAL PRESENTATION

## Orthopaedics

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## ABSTRACT

Developmental dysplasia of the hip (DDH) which usually presents in infancy or early childhood comprises of a variety of conditions ranging from dysplasia to dislocation of the hip joint which occurs due to an abnormal hip development. In this case a 3 year-old-male child presented to Orthopaedic OPD on 6th Dec, 2022 with the complaint of difficulty in walking & deformity over B/L hip for 18 months. The patient underwent surgery for the left hip, which involved a Salter osteotomy followed by open reduction, derotation osteotomy, femoral shortening with fixation by DCP, and capsulorraphy. A one and a half hip spica was given postoperatively. The diagnosis of DDH should be considered in any child with an abnormal gait, asymmetry of the gluteal folds, or leg-length discrepancy.

## KEYWORDS

Developmental Dysplasia of Hip, Osteotomy, Spica.

## INTRODUCTION

Developmental dysplasia of the hip (DDH) which usually presents in infancy or early childhood encompasses a plethora of conditions ranging from dysplasia to dislocation of the hip joint which occurs following an abnormal hip development.<sup>[1]</sup> It is imperative to note that both genetic and developmental factors are responsible for this disorder.<sup>[2]</sup> DDH has a prevalence of 1-2/1000 in unscreened populations and 5-30/1000 in clinically screened populations.<sup>3</sup> The fundamental of treatment behind DDH is to maintain a concentric reduction of the femoral head in the acetabulum. This procedure is performed according to the age of the patient and complexity of the dysplasia. The treatment modalities ranges from less-invasive bracing treatments such as use of Pavlik Harness to more-invasive surgical treatments.<sup>[4]</sup>

## Case Report

## History

A 3 year-old-male child presented to the Orthopaedic OPD on 6<sup>th</sup> Dec, 2022 with the complaint of difficulty in walking & deformity over B/L hip for 18 months. The parents first noticed this when the child started to walk at the age of 18 months. The patient protrudes his abdomen while walking & there was visible deformity over B/L hip. There was no history of trauma, fever, or any other comorbidities. The child was full term vaginal delivery with normal birth but with breech presentation. The child was exclusively breastfed for 6 months & was fully immunised till date. There was no history of any illness or drug intake by mother during pregnancy.

## Examination (B/L Hip)

On Inspection 'Duck waddle' gait was observed on walking, the visible muscle wasting was present over B/L gluteal region, widened pelvis, no visible swelling with overlying skin looks normal

## On Palpation:

No tenderness, no crepitus, no local rise of temperature with distal neurovascular status intact

## ROM Hip:

- Abduction (B/L) – 0°-25°; Rest within normal limits
- Special Tests- B/L Ortolani test – positive, B/L Barlow test – positive, Trendelenberg sign- positive, Telescopy test- positive

## Radiological Investigation

A Pelvis with both hip X-ray was taken which showed shallow acetabulum on both sides, oblique acetabular roof of both sides, B/L displacement of femoral head to upper outer quadrant & widening of acetabulofemoral space. The radiological images post surgery are shown in figure 1 and 2.





**Management**

Based on history, clinical & radiological findings, patient was diagnosed as a case of B/L developmental dysplasia of hip. Left hip of the patient was operated initially. The patient was operated by salter osteotomy followed by open reduction, de-rotation osteotomy & femoral shortening with fixation by DCP followed by capsulorraphy. Post operatively one & half hip spica was given.

**DISCUSSION:**

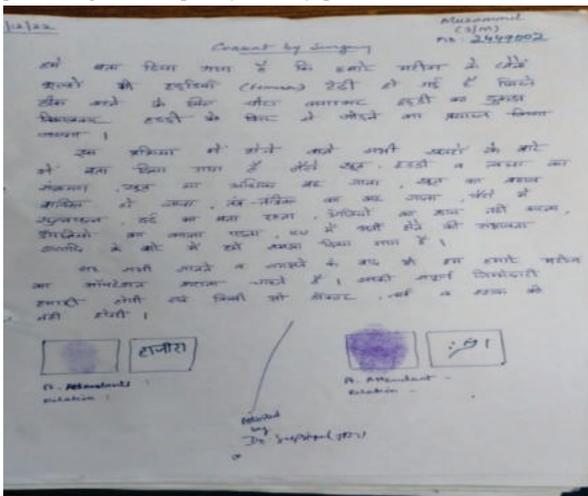
This case report highlights a 3-year-old male child diagnosed with bilateral developmental dysplasia of the hip. DDH can have a significant impact on the patient's functional ability, especially if it is left untreated, and can lead to early development of osteoarthritis, hip pain, and hip joint instability.<sup>[5,6]</sup>

There is a large variation in clinical presentation of DDH. The most common clinical presentation includes asymmetry of the gluteal folds, limp or abnormal gait, and leg-length discrepancy. In this case, the patient had visible deformity over bilateral hips, muscle wasting over B/L gluteal region, a duck waddle gait, and positive special tests such as B/L Ortolani test, B/L Barlow test, Trendelenberg sign, and Telescopy test.<sup>[7]</sup>

Radiological investigations are an essential part of the diagnostic workup of DDH. In this case, a pelvis with both hip X-ray was taken which showed shallow acetabulum on both sides, oblique acetabular roof of both sides, B/L displacement of the femoral head to the upper outer quadrant, and widening of the acetabulofemoral space. These findings support the diagnosis of bilateral DDH.<sup>[8]</sup>

**CONCLUSION:**

In conclusion, the presented case report highlights the clinical presentation, diagnostic workup, and management of bilateral DDH in a 3-year-old male child. The diagnosis of DDH should be considered in any child with an abnormal gait, asymmetry of the gluteal folds, or leg-length discrepancy. Radiological investigations are essential to confirm the diagnosis of DDH, and treatment should be tailored to the patient's age and complexity of the dysplasia.



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Nil

**Conflict Of Interest**

There is no conflict of interest

**Consent**

Written informed consent was obtained from the patient for publication of this report. The informed consents have also been attached for reference.

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