Traumatic Hip Dislocation in Late Pregnancy: A Case Report

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Summary

Hip dislocation in pregnancy is an uncommon injury. We report a case of traumatic hip dislocation in the third trimester of pregnancy to highlight potential problems associated with its treatment. The rationale for choosing the preferred treatment options is discussed.

Key Words: Hip dislocation, Trauma, Pregnancy

Introduction

Traumatic hip dislocation in pregnancy is uncommon. However, pregnant women are at higher risk to dislocate their hips following motor vehicle accident. This is probably related to the fact that pregnant women often preferred to be seated without restraint by the seat-belt. In the third trimester of pregnancy, the joint is intrinsically lax owing to physiological change caused by the presence of polypeptide hormones particularly relaxin. This has an important bearing when considering limb traction as part of the treatment of such injury.

Case Report

A 28 year-old woman at 34-week of gestation was a front-seat car passenger involved in a motor vehicle accident. She was brought in to the accident and emergency department where with severe pain in the abdomen and the left hip. Examination revealed that the left lower limb was shortened with the hip flexed, internally rotated and adducted. The range of motion of the left hip was grossly restricted by severe tenderness even on slightest attempt to move it. There was no neurovascular deficit. The abdomen was grossly tender to enable clinical assessment of the foetal heart sound. An urgent cardiotocography revealed that the viable foetus was in distress. Radiographs confirmed a posterior dislocation of the left hip (Figure 1). She was taken straight way to the operating theatre for an emergency Caesarean section under general anaesthesia. Closed reduction of the dislocated left hip using the Allis reduction manoeuvre was then carried out intra-operative assessment of the stability of the reduced hip revealed the hip was unstable when tested at 80° flexion and 15° adduction. However, on table radiograph of the hip showed a concentric reduction (Figure 2). The injured left lower limb was rested on Thomas Splint without traction. Post-operative CT-scans of the hip showed a 4mm avulsion fracture fragment of the ligamentum teres arising from its femoral head attachment and a small posterior acetabular lip fragment of less than a quarter of the posterior articular arc (Figure 2).

The affected lower limb was rested on the Thomas splint for two weeks and she was commenced on low molecular weight heparin for thromboembolic prophylaxis. She was taught to ambulate on non-weight bearing mobilisation method prior to her discharge. Follow-up at sixth month revealed that the left hip was stable and painless. At 2 years post-trauma, radiographs of the left hip showed no evidence of femoral head osteonecrosis. She was asymptomatic and has resumed normal activities including horse-riding without any difficulty.
Discussion

There are many physiological and hormonal changes in pregnancy. In general, the ligaments are lax due to the effect of polypeptide hormones particularly relaxin. The relationship between relaxin and congenital dislocation of the hips or dislocatable hip in neonates was postulated as the possible cause. Musculoskeletal effects of hormonal changes affecting the mother in late pregnancy are mostly subclinical or mild such as carpal tunnel syndrome and non-specific low back pain. An entity known as intra-partum or post-partum diastasis of symphysis pubis is probably related to ligamentous laxity secondary to the surge of relaxin secretion in the late trimester of pregnancy and forceful per vaginal delivery of big baby.

Although hip dislocations are uncommon in pregnant women, high energy trauma in late pregnancy with impact delivered to the hip positioned in certain at risk postures may cause acute dislocation of the hip. The role of ligamentous laxity remains uncertain as illustrated in this case. The presence of associated fractures; posterior acetabular rim and avulsion fracture of the femoral attachment of the ligamentous teres femoris, indicate a high energy trauma. Joint hyperlaxity typically represents a low velocity injury and manifests as simple dislocation without associated fractures. However, the presence of joint hyperlaxity may have significant impact on choosing the best treatment option particularly when considering application of traction during healing phase.

The treatment of hip dislocation in pregnancy following a major trauma needs a careful and balanced decision pertaining to both the mother and the foetus. It involves a multi-disciplinary team with prompt cooperation between the specialities. Considering the pros and cons in choosing the options of treatment is an exercise to ensure both the mother and the foetus remain safe without inflicting unwanted consequence of the injury. Timing of reduction and type and duration of immobilisation require a balanced judgement as regard to the risk of venous
thromboembolism and osteonecrosis. Pelvic surgery in pregnancy or trauma setting is a known associated risk factor and the use of prophylactic anti-thrombotic agent is considered as a prudent course of action. Prolonged post-operative immobilisation may further increase the risk of thromboembolism. Lower limb traction is not indicated as the ligaments around the hip are lax and it may further distract the fracture fragments. In a stable post-reduction hip, limb traction is not necessary and early mobilisation may be useful to reduce thromboembolism.

