Subsartorial Approach in Open Reduction of Developmental Dysplasia of Hip

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Abstract

Keywords-(DDH, ASIS,AOR, AIIS,CE angle,DVO).

In children older than 6 months, achieving a concentrically reduced hip while minimizing complications is more challenging. Bracing, traction, closed reduction, open reduction, and femoral or pelvic osteotomies are frequently used treatment modalities for children aged 6 months to 4 years. [17]Although most often considered for children older than 18 months, an open reduction is indicated for any hip in which a concentric, stable reduction cannot be achieved by closed means. A variety of approaches may be used; the location of the skin incision is of less importance than the elements of the procedure relevant to the acetabulum.. If this approach is used in bilateral cases, the procedures are usually staged at 2- to 6-week intervals. [17] Inability to perform a pelvic osteotomy or capsulorrhaphy via a medial approach generally limits its use to patients less than 12 to 18 months of age. However, a medial approach requires minimal dissection, avoids splitting the iliac apophysis, and allows direct access to the medial structures. There are several medially based approaches. The true medial approach, as originally described by Ludloff, utilizes the interval between the pectineus and the adductor longus and brevis. Ferguson [24] popularized the use of this approach in the United States and modified it to pass between the adductor longus and brevis anteriorly and the adductor magnus and gracilis posteriorly.

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List of Abbreviations

AI	Acetabular index
CE angle	Centre edge angle
AOR	Anterior open reduction
ASIS	Anterior Superior Iliac Spine
AVN	Avascular necrosis
DDH	Developmental dysplasia of the hip
DVO	Derotation varus osteotomy
FNI	Femoral neck isthmus
FO	Femoral osteotomy
FS	Femoral shortening
Hb	Hemoglobin
IO	Innominate osteotomy
LGP	Longitudinal growth plate
MOR	Medial open reduction
PO	Pelvic osteotomy
TGP	Trochanteric growth plate
TRC	Triradiate cartilage

Introduction

Introduction

Developmental dysplasia of the hip (DDH) is common, ranging from mild dysplasia to frank dislocation. The diagnosis can be difficult, even in experienced hands, particularly when there are bilateral dislocations. All infants should be screened clinically. Initial treatment in the infant is with a Pavlik harness, if this is ineffective or if the child presents later, more aggressive treatment, such as a closed reduction, or even surgical reduction may be indicated. All hips must be carefully followed until maturity. If diagnosed and treated promptly excellent results can be obtained, but long-term sequel occurs even in patients given optimal treatment. [1]

Although most often considered for children older than 18 months, an open reduction is indicated for any hip in which a concentric, stable reduction cannot be achieved by closed means. [2]

The goals of open treatment are to obtain reduction, maintain the reduction, avoid damage to the femoral head, and provide an optimal environment for acetabular and proximal femoral development. [3]

The modified Smith-Petersen anteroir approach, performed via a “bikini” incision, is the most utilitarian approach and is used when there is the possibility of a concomitant pelvic osteotomy. This approach is particularly well suited to open reduction in patients in whom there may be a high-riding femur with a lax capsule adherent to a false acetabulum and structures that are not as well visualized through a medial approach. Inability to perform a pelvic osteotomy or capsulorrhaphy via a medial approach generally limits its use to patients less than 12 to 18 months of age. However, a medial approach requires minimal dissection, avoids splitting the iliac apophysis, and allows direct access to the medial structures. [2]

AIM OF THE WORK

The aim of our study is to discuss the results of open reduction in cases of developmental dysplasia of hip using a new approach called subsartorial approach. We will evaluate the radiographic and clinical outcome of the patient cohort. We will compare our results to the published series in the literatures.

Chapter 1: Review of literature

Anatomy