Sequelae of Neonatal Septic Arthritis of Hip

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The aim of the study was evaluation of residual deformity after neonatal septic arthritis of the hip. The patient was operatively treated by intertrochanteric osteotomy of valgisation of 35° with anterotation of 10° and extension 25° at age of nine years because of leg length discrepancy, changes in the femoral neck, coxa vara, plana and breva. It was delay in diagnosis and failure to begin treatment promptly in the neonatal period. Delay in the diagnosis and the treatment of septic arthritis can result in disastrous complication like in this case report. Key words: Septic arthritis of the hip, residual deformity and late treatment, intertrochanteric osteotomy.

1. INTRODUCTION

The most serious complication of the septic arthritis of the hip in childhood and especially in newborns is the avascular necrosis of the femoral head which can lead to partial or complete destruction of the capital femoral epiphysis, the growth plate or both. The sequelae of infantile septic arthritis and osteomyelitis of the hip are diverse and can include (1):

- Necrosis of the articular cartilage,
- Premature closure of the triradiate cartilage,
- Premature or asymmetrical closure of the capital femoral physis,
- Acetabular dysplasia,
- Lower-extremity length discrepancy,
- Osteonecrosis,
- Pseudoarthrosis of the femoral neck, and
- Complete destruction of the femoral head and neck.

The aim of the treatment of sequelae of neonatal septic arthritis of the hip is to preserve good relation between the femoral head and acetabulum. We are presenting a case of a boy aged twelve years, with coxa vara, plana et breve treated with corrective osteotomy of valgisation with anterotation. The intertrochanteric osteotomy results also in local hyperemia, improved venous drainage, and remodeling of internal architecture.

2. CASE REPORT

On clinical examination, there was muscle wasting et the hip and thigh region. The patient has Duchenne-Trendelenburg limp and the Trendelenburg sign with flexion, rotational and adduction contracture of the left hip. Abduction and adduction was tested with patient supine. The Thomas test was positive and flexion deformity was 25°, abduction 20°, adduction deformity of 25°. Internal and external rotation was determined with the patient prone. Internal rotation was limited of 20°. Determination of leg length discrepancy was done with patient laying and standing, and the shortening was 3.8 cm. Magnetic Resonance Imaging (MRI) was not done because our hospital lacks the equipments. The residual deformity was classified with a radiological classification system suggested by Choi et al. (2). Our patient was grouped under Choi’s Type IIIA, with severe coxa vara angular deformity with retroversion but no pseudoarthrosis of the femoral neck. A boy aged ten years complained of painless limp on the left hip. He had suffered septic arthritis of the left hip in the neonatal period. Intertrochanteric osteotomy was done with lateral approach to change the loading of the hip and to place the epiphyseal plate at right angle to the resultant of the compressive forces. With this intertrochanteric osteotomy of valgisation of 35° with anterotation of 10° and extension 25° we achieved transferring the greater trochanter distally and laterally so it is level with the center of the femoral head, restoring normal tension to the pelvitrochanteric muscles and improving their mechanical efficiency. With this procedure we placed the superior end of the femur against the lateral aspect of the pelvis and also increased the distance between the tip of the trochanter and the center of the hip rotation, years old after op treatment.

3. DISCUSSION

Delay in diagnosis, failure to begin treatment promptly, and patient age less than 1 year are the most common reason for late complication (3,4). Early diagnosis and initiating immediate treatment is vital for the therapeutic outcome and long-term good prognosis. Septic arthritis of the hip is a common and rapidly destructive pyogenic infection in children and continues to
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be a challenge despite improved antibiotic therapy because of the devastatingly poor results when treatment fails or is begun late (5,6). Acute septic arthritis represent a surgical emergency which demands early and vigorous treatment in order to preserve normal joint function (7,8). Septic arthritis of the hip frequently is associated with osteomyelitis of the metaphysis of the proximal femur, since the capsule in the hip joint encompasses the metaphysis. In our case intertrochanteric femoral osteotomy increased the stability of the hip due to correction of the neck-shaft angle. In this type of osteotomy the operation is extracapsular so the hip joint is not directly approached. A good understanding of natural history of sequela of septic arthritis of the hip is essential to plan the best treatment. Our patient was grouped under Choi’s Type IIIA. The intertrochanteric osteotomy of valgisation of 35° with anterotation of 10° and extension 25° in our case has given a satisfactory result, improving the lower-extremity length discrepancy from 3.8 cm preoperatively to 1, 2 cm. and anatomic and functional relations. Postoperatively the pelvic drop (Trendelenburg gait) was reduce.

REFERENCES

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