Treatment of Slipped Capital Femoral Epiphysis With the Modified Dunn Procedure: A Multicenter Study

Abstract

Introduction: Treatment of moderate to severe slipped capital femoral epiphysis (SCFE) is controversial. Over the last years, 3 institutions in Argentina adopted the modified Dunn procedure for capital realignment in selected cases of SCFE. Our aim in this study was to evaluate the clinical outcome and the rate of complications of patients who had undergone surgical hip dislocation and capital realignment.

Methods: A multicenter retrospective cohort study of patients who received the modified Dunn procedure from January 2009 to 2013 was performed. Data concerning clinical features, surgical technique, intraoperative findings, and postoperative complications were obtained from all available medical records. The operative results were evaluated on clinical and radiographic criteria.

Results: Twenty patients (21 hips) with a mean of 40.4 months (range, 12 to 84 mo) of follow-up were evaluated. The average Harris Hip score was 76.3 points (range, 40 to 100 points). Seven patients had excellent results, 6 good, 2 fair, and 5 poor. Mean slip angle improved from a preoperative value of 59.1±11.2 degrees to 5.4±2.5 degrees (P=0.001). The mean postoperative alpha angle and neck-shaft angle were 40.8±2 degrees and 131±9.9 degrees, respectively. One patient had a superficial infection that was resolved with oral antibiotics. Six patients had complete osteonecrosis with severe involvement and 4 partial femoral head necrosis with minimal deformity. No patients developed chondrolysis, infection, deep venous thrombosis, heterotopic ossification, nonunion, or nerve palsies.

Discussion: Modified Dunn procedure for treating hip SCFE is a technically demanding surgery with wide variations in the reported outcomes. Although in this series 65% of patients had good or excellent functional results, a high rate of complications was observed. This may be related, among other factors, to the learning curve of the procedure.

Level of evidence: Level IV-therapeutic study.

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