VARUS DISTAL FEMORAL OSTEOTOMY IN YOUNG ADULT WITH GENU VALGUM AND FIXATION WITH DCS

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Objective: The purpose of the present study was to study and analyze the surgical results of distal femoral varus osteotomy in patients with genu-valgum.

Material and Methods: Between September 2006 to November 2013, 18 distal femoral osteotomies were performed on 14 patients at deptt: of orthopaedic surgery Services hospital Lahore. After taking the history and physical examination, appropriate radiographs were taken. We did varus femoral osteotomy by standard lateral approach and 95 angled DCS fixation then followed the patient clinically and radiographically till sound healing of osteotomy was achieved.

Results: This study was done on 18 knees (14 patients) with mean age 17 years (range 16 to 19years).The mean duration of follow up was 7.9 months.(range, 6 to 9 months). The tibiofemoral angle before operation and after operation was compared. The average tibiofemoral angle before operation was 19.24°(14°to 24°) and follow up was 6.75°(5° to 8°).Mean LDFA before surgery was 74.85°(67°to 83°) and after surgery was 86.90°(83°to 90°).

Conclusions: Distal femoral osteotomy with DCS fixation through lateral approach can be reliable procedure for the treatment of valgus knee deformity. In this procedure tibiofemoral angle correction can be achieved without compromising the function of quadriceps muscle which helps in the early rehabilitation of the patient in terms of restoring the knee movements. Another advantage of lateral approach is, along with genu-valgum correction, the patella can be stabilized simultaneously.

Keywords: Genu Varum, Osteotomy.

Introduction

Genu valgum is a remarkably common deformity in childhood. Though deformities up to the age of 12 years can be satisfactorily managed by epiphyseal stapling, cases of under correction and over correction are common.[1] When the patient presents after the second growth spurt, stapling operation is no longer indicated and only corrective osteotomy remains the logical choice. Cuneiform osteotomy, closing wedge osteotomy, opening wedge osteotomies and osteotomy osteoclasis have been conventionally used.[2-5] Several authors stated showed that if knee shows an anatomic tibiofemoral angle> 10 to 12° of valgus or if the plane of the joint deviates from the horizontal in the superolateral direction, more than 10°, a distal femoral osteotomy is the preferred method of limb realignment.[6-8] This procedure corrects deformity in the lower femur, which is more pronounced than in knees with varus deformity. It also restores the orientation of the joint line towards the horizontal and does not disturb medial collateral ligament stability.[9,10]

Recently it has been demonstrated that for the re-alignment of proximal and distal mechanical axis after the osteotomy, the axis of correction should pass through the CORA (center of rotation of angulation) of deformity.[8] Without meeting this requirement, the proximal and distal axis will be translated to each other after correction leading to lazy S deformity. With this objective in mind we performed closing osteotomy for correction of genu valgum deformity in young adults.

Aims and Objects

The purpose of the present study was to study and analyze the surgical results of distal femoral varus osteotomy in patients with genu -valgum.

Material and Methods

Between September 2006 to November 2013, 18 distal femoral osteotomies were performed on 14 patients at our institution. Standinding anteroposterior and lateral radiographs of the knees and CT generated images were taken preoperatively and postoperatively to measure tibiofemoral and lateral distal femoral angles. Our surgical indications were genu-valgum with a valgus tibiofemoral angulation of >12° and narrowing of lateral joint space and cosmetic concerns. We tried to consider the deformity with a deviated mechanical