

Paper #35

Distal Femoral Osteotomy - A Large Multicentre Case Series

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A multi centre study:

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Summary:

This is a multi-centre case series of distal femoral osteotomy demonstrating good results during early follow up

Abstract:

INTRODUCTION

Distal femoral osteotomy (DFO) is a successful procedure performed when the deformity is present in the distal femoral metaphysis. The evidence base comes from several case series in the literature with the largest of these having 40 knees from 38 patients. We report a larger multicentre case series exploring the outcomes from DFO.

METHODS

All patients having undergone a DFO were identified from 3 participating centres. Validated digital planning software using weight bearing long leg radiographs allows preoperative deformity analysis. Typically a medial closing wedge osteotomy was performed on the femoral metaphysis and then fixed with a Tomofix locking plate. Postoperative radiographic and clinical outcome evaluation using the following outcome scores; the knee injury and osteoarthritis outcome score (KOOS), Oxford knee score (OKS), EuroQol's EQ5D and a visual analogue scale (VAS) for pain and post operative satisfaction.

RESULTS

109 DFO were performed in 106 patients (3 staged bilateral cases). This was 9 lateral closing wedges, 17 lateral opening wedges, 3 medial opening wedges 80 medial closing wedges. Mean follow up was 2.4 years (5 months to 6.4 years). 50 female, 57 male. Average age 43.7 yrs (18.5-71)

In the varus knees who underwent either closing lateral or opening medial wedges the mean mTFA was -7.2 corrected to 0. LDFA of 94.4 was corrected to 85.8. The Mikulicz point at 22% was corrected to 50.8% with a mean wedge base of 10.9mm

In the valgus knees mean mTFA was 5.3 corrected to -2.1. LDFA of 84.4 was corrected to 92.3. The Mikulicz point at 73.2% was corrected to 27.7% with a mean wedge base of 9.4mm

As a combined group, all outcome measures improved: mean KOOS 38.8 to 61.8, mean OKS 21.4 to 33.3, VAS pain 54.8 to 24.7. Post operative VAS satisfaction was 8.0.

The following complications were observed; 3 delayed unions, 3 deep infection, 2 thromboembolic complications (1 deep vein and 1 fatal pulmonary embolus), 2 DFO were converted to arthroplasty and 2 were revised for undercorrection.

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CONCLUSIONS

DFO is an effective procedure, offering improved outcome and function. Intermittent complications are encountered even in the hands of experienced surgeons. Although femoral correction is most commonly used to correct valgus deformity at the knee, it has an important role in correcting varus deformity when the deformity is in the femur thus highlighting the importance of preoperative planning.