The Effect of Triple Osteotomy for Moderate to Severe Hallux Valgus with High Distal Metatarsal Articular Angle

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My disclosure is in the Final AOFAS Program Book.

I have no potential conflicts with this presentation.
INTRODUCTION

- It is controversial that which operative technique is ideal for the moderate to severe hallux valgus with a high distal metatarsal articular angle (DMAA).

- The triple osteotomy, which consists of PCMO, DCMO & Akin osteotomy, has been recommended as one of the surgical options for this condition.

- We analyzed the effect and safety of triple osteotomy for the moderate to severe HV with high DMAA.
MATERIALS & METHODS

- April, 2001 ~ March, 2010
- 21 feet, 20 patients (M : F = 2 : 18)
- Age : 32Y ~ 65Y (mean 46.3Y)
- F/U : 1.5Y ~ 3.9Y (mean 2.6Y)

Clinical Assessment

- AOFAS hallux MP-IP scale
- ROM of the 1st MTP jt.
- Patient’s satisfaction
- Complication
METHODS

Radiologically

- Hallux valgus angle
- 1st intermetatarsal angle
- Distal MT articular angle
- 1st MT length (Hardy and Clapham)
Surgical Technique

• **Triple osteotomy**
  1) Biplanar DCO
  2) PCMO
  3) Additional Akin osteotomy
  4) Each fixed with K-wires
  5) PO shoe until 8 wks
RESULTS

Clinically
- AOFAS scale
  - Preop 62.2 → PO 92.3
- 1st MTP jt. ROM
  - 20 of 21 cases ≥ 50° of DF
- Patient’s satisfaction
  - 19 of 20 were satisfied
- There were 1 recurrence and 1 minor wound infection.
- There were no AVN, MU-NU or transfer metatarsalgia.

Radiologically
- HVA: 40.0° → 13.1° (26.9°↓)
- IMA: 16.7° → 9.0° (7.7°↓)
- DMAA: 18.5° → 6.3° (12.2°↓)
- The mean shortening of 1st MT: 3.1 mm
DISCUSSION

• Coughlin (FAI, 1995 & 1997)
  – Degree of congruent HV is related to DMAA.

• Johnson (JPO, 2004)
  – 1st MT double OT for severe adolescent HV

• Our study
  – Moderate or severe HV with high DMAA
  – Combined triple osteotomy
  – Good correction of HVA, IMA & DMAA
CONCLUSION

• Combined triple osteotomy is a safe and effective surgical option for the moderate to severe hallux valgus with high DMAA.
REFERENCES


