Treatment of Moderate to Severe Hallux Valgus Using Proximal Reverse Chevron Metatarsal Osteotomy and Akin Osteotomy Through One Medial incision

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My disclosure is in the Final AOFAS Program Book. I have no potential conflicts with this presentation.
Distal Soft tissue Release (I)

1. Dorsal 1st web approach
   - Between the 1st web space
   - Standard procedure
   - More easy to release the lateral soft tissue

2. But 1st web space dorsal scar
   ➔ Disfiguring and poor outcome factor of patient satisfaction
   ➔ Cosmetics HV surgery importance !!!
PURPOSE OF THE STUDY

- To retrospectively review
  1) Optimal cosmetics and forefoot function
  2) Clinical and radiographic outcome of moderate to severe hallux valgus treated with proximal reverse chevron metatarsal osteotomy and Akin osteotomy through one medial incision technique
MATERIALS AND METHOD (I)

- Duration: 2008.2 - 2009.10
- Post-op Follow up > 12mo
- 41 patients, 51 feets
- Moderate to Severe HV deformity
- Age at OP: Avg 46.0 yrs (20-68 yrs)
- Male : Female = 3 : 38 patients
MATERIALS AND METHOD (II)

- Rt / Lt : 26 / 25 feets
- Single surgeon (HGJ)
- Randomized consecutive series
- F/U period: Avg 14.4 mo (12-25 mo)
- Sx duration: 67.1mo (3-240 mo)
Surgical Procedure (I)

1) **Medial longitudinal skin incision** from middle of hallux to 1\textsuperscript{st} metatarsal base

2) Retraction **full thickness skin flap** flipping over the 1\textsuperscript{st} metatarsal
Surgical Procedure (II)

3) **Soft tissue release**
   - lateral capsule of the 1\textsuperscript{st} MTP joints
   - Deep transverse metatarsal ligaments
   - Adductor tendon from the lateral sesamoid

4) **Proximal reverse chevron metatarsal osteotomy**
5) Intra-Operative measure of HIA similar to weight-bearing foot AP view by pressure on the entire forefoot over the fluoroscopic flat detector

6) Akin procedure for cosmetic
   \[ \rightarrow 94\% \ (62/66 \text{ feet}) \]
RESULTS
OVERALL CLINICAL OUTCOME

**VAS score**
- PreOp: 6.4
- Final f/u: 1.3
- *p*-value < 0.01

**AOFAS score**
- Preop: 56.3
- Final f/u: 89.6
- *p*-value < 0.01
Radiographic Outcome (I)

**HVA (Degrees)**

- Preop: 34.9
- Final f/u: 6.4

**IMA (Degrees)**

- Preop: 17.0
- Final f/u: 4.7

*p-value < 0.05*
1st MTP Range of Motion

Pre-Op MTP DF/PF: 65.0/23.2
Final F/U MTP DF/PF: 60.6/20.6

FUNCTIONAL GOOD ROM

→ Normal range of motion (DF/PF) was achieved
OVERALL CLINICAL OUTCOME

- Patients satisfaction:
  Satisfied with surgery: 84% (43/51 feet)

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- Dissatisfied 1 feet
  - Postop 2, 3rd plantar callosity & metatarsalgia

- Return to occupation (Mo): Avr 4.4 mo (1-12 mo)
COMPLICATIONS

- **Major Cx**: HV recurrence (2)
  (d/t severe HV & osteoporotic bone)
  Mild hallux varus (1)
- **Minor Cx**: Hypertrophic scar (3)
  Proximal pin irritation (3)
  Superficial infection (1)

→ No major wound problem, no skin necrosis
Summary

Proximal reverse chevron metatarsal osteotomy and Akin osteotomy through a medial one medial incision technique

• Good surgical option to address moderate to severe hallux valgus

• **Lesser major wound complication**

• **Cosmetically and functionally excellent**