Clinical Outcomes of Distal Metatarsal Osteotomy using Bio-compression Screw for Advanced Hallux Rigidus

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My disclosure is in the Final Program Book and in the AOFAS database

I have no potential conflicts with this presentation
Various osteotomy techniques for Advanced Hallux Rigidus

- Oblique osteotomy
- Modified chevron osteotomy
- Dorsal close wedge osteotomy
Demographics

- 42 cases (38 patients) of advanced hallux rigidus treated with distal metatarsal wedge osteotomy using bio-compression screw
- Coughlin & Shurnas class > grade 2
- Followed up for more than 3 years after op.
- Performed by one surgeon

- Age: mean 46.8yr
- Follow up: mean 3.5yr
- Sex (M/F): 22 / 20

- Coughlin-Shurnas class.
  - grade II: 11 cases
  - grade III: 26 cases
  - grade IV: 5 cases
Surgical procedure

Dorsal close wedge osteotomy
Temporary fixation (k-wire)
Surgical procedure

Multiple drilling & screw fixation

3mm bio-compression screw
**Clinical & Functional results**

- AOFAS hallux rating score: 48.4 → 88.6 points
- Patient’s satisfaction score: 94.8 points
- ROM of 1st MTP joint: Dorsiflexion 9.4° → 33.5°
- Period to return to running exercise: 3.6 months

**Radiological results**

- Interval of 1st MTP Joint space: 1.2mm → 3.4mm
- Period to union of osteotomy site: 10.2 weeks
- No case of subsequent fusion or additional op.
- No complication associated with bio-screw
Case

M / 52, Right big toe pain & LOM

Preop.

Postop.
**Conclusion**

- Reliable pain relief
- Restoration of the first MTP joint motion
- Needlesness of hardware removal
- Joint preservation method

Distal metatarsal dorsal wedge osteotomy using bio-compression screw

*One of effective treatment methods for advanced hallux rigidus*
<References>

