Mid-term Clinical Outcomes of Distal Metatarsal Dorsiflexion Osteotomy using Biocompression Screw for Advanced Hallux Rigidus

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My disclosure is in the final AOFAS mobile App

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

- Oblique osteotomy
- Modified chevron osteotomy
- Dorsiflexion (dorsal close wedge) osteotomy
Demographics

- 42 cases (38 patients) of advanced hallux rigidus treated with distal MT dorsiflexion 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 46.8yrs
- **Follow up**: mean 3.8yrs
- **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
Surgical procedure

Check of 1st MTP motion under intraoperative fluoroscopy
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
- Needlessness of hardware removal
- Considerable joint preservation method

Distal metatarsal dorsiflexion osteotomy using bio-compression screw

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

