The Applications Of Headless Compression Screw As Intra-Medullary Fixation In 1st Metatarsal Osteotomy In Treating Hallux Valgus

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INTRODUCTION:
Hallux valgus is a deformity of 1st MTP joint. Up to 150 procedures had been described. High degree hallux valgus (HV angle>30-35) needs osteotomy. However, fixation and osteotomy had mal-union and skin complications. In this study, we used headless compression screw(Acutrak, Acumed) in retrograde insertion as an intra-medullary fixation for osteotomy in 11 patients. All bony unions were noted and no skin complication. It is a reliable fixation for 1st MT osteotomy.

MATERIALS & METHODS:
11 patients were collected and table1 showed all the profiles and results. Surgery includes three parts: 1st metatarsal bone close wedge osteotomy and fixation with retrograde intra-medullary screws; Bunion resection; 1st MTP joint capsulorrhaphy. Osteotomy was targeted in the junction of distal third and middle third of 1st MT bone. Close wedge osteo-synthesis was performed and two headless screws fix the bone.

RESULTS:
All patients had wounds healed in 2-3 weeks and bony union after two months and began with full weight bearing. The only one (case6) had bone crack in distal end during screw insertion but had complete bony union. No wound complications were noted for all Figure3 showed the result of case5.

DISCUSSIONS:
The major concern of osteotomy is the location and fixation choices. An ideal way should be a more proximal cut, reliable fixation with high bony union rates and less jeopardy to soft tissue. In this study, we used two headless, self-compression screws. It showed the magnificent reliability with rigid fixation of 1st MT bone and joint capsule balance and joint congruency are easier. Shortening is suggested but patients had no complaints.

CONCLUSION:
By retrograde insertion of headless screws as an intra-medullary close wedge osteotomy fixation, the fixation stability was reliable.

REFERENCES:
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