Comparison of postoperative outcomes between modified Mann procedure and modified Lapidus procedure for hallux valgus
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Introduction/Purpose: Surgery for hallux valgus (HV) includes a variety of techniques based on the osteotomy site. We use the modified Mann technique in cases with deformity ranging from 30° to 40° and the modified Lapidus procedure in HV cases with deformity of over 40° or with metatarsalgia.

Methods: Here we report our investigation of the appropriateness of the modified Mann technique and the modified Lapidus procedure based on a comparison of postoperative outcomes. In total, 73 feet of 58 cases who underwent surgery for HV with subsequent follow-up observation for at least 1 year were included in the study. The modified Mann technique was performed on 31 feet of 26 cases (M Group), and the modified Lapidus procedure was performed on 42 feet of 32 cases (L Group). Six cases in the M Group and 39 cases in the L Group also underwent concurrent surgery for metatarsalgia. The outcome measures were changes in the HV angle, the angle between the M1M2, the Japanese Society for Surgery of the Foot (JSSF) hallux scale, complications, and HV recurrence. These outcome measures were compared using the unpaired t-test on standing anteroposterior X-ray of the feet.

Results: In the M Group, comparison of pre- and postoperative radiological changes indicated that the HV angle improved from 38.2° to 11.4°, M1M2 angle improved from 14.5° to 5.0° respectively. JSSF hallux score improved from 53.3 to 89.6. Postoperative hallux varus was confirmed in four cases, Osteoarthrosis of the MTP joint in six, and HV recurrence in two. In the L Group, comparison of pre- and postoperative radiological changes indicated that the HV angle improved from 46.0° to 16.9°, M1M2 angle improved from 15.2° to 6.6° respectively. JSSF hallux score improved from 47.8 to 94.7. Postoperative hallux varus was confirmed in two cases, Osteoarthrosis of the MTP in four, and HV recurrence in four. In both groups, only preoperative HV angle exhibited significant differences (p < 0.0001).

Conclusion: Surgical technique was selected based on HV severity and metatarsalgia whether were present; however, both groups showed satisfactory results. In cases of severe HV or in cases accompanied by metatarsalgia, we performed the modified Lapidus procedure that reduced pronation and valgus of first metatarsal. The X-ray and clinical findings of the present study showed that the results of the L Group were not inferior when compared to those of the M Group. Surgical technique should be selected based on both HV severity and lessor toe symptoms.