

EARLY OUTCOME OF TOTAL ANKLE ARTHROPLASTY: HOSPITAL SULTANAH NUR ZAHIRAH EXPERIENCES

¹M Saiful Adzuwan MR

¹Orthopaedic Department, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu Darul Iman, Malaysia.

INTRODUCTION:

Despite the facts that total ankle arthroplasty (TAA) is gaining fame worldwide, it is still considered ‘rare’ surgery in Malaysia let alone in East Coast of Peninsular Malaysia. We are sharing the early outcome of the first three cases done in our center.

MATERIALS & METHODS:

We wished to determine if TAA provide improvement in pain scores from before surgery to 6 months after surgery by using the AOFAS Ankle Hindfoot Scale, and to identify whether we managed to achieve restoration of the ankle joint line (JL) by measuring the Lateral distal tibial angle (LDTA) from lateral view ankle x-ray and anterior distal tibial angle (ADTA) from Anterior-Posterior (AP) view ankle x-ray during follow-up clinic in comparison to pre-operative x-ray.

RESULTS:

All 3 patients showed improvement of AOFAS Ankle Hindfoot Scale post operatively by 54% to 65% (Table 1). This showed improvement in term of pain, gait, mobility, joint motion, and alignment in all 3 patients post operatively. All 3 patients also had achieved satisfactory Anterior Distal Tibia Angle (ADTA) and Lateral Distal Tibia Angle (LDTA) measurement post operatively (Table 2).

Patient's No.	AOFAS Score Pre-operative	AOFAS Score Post operative	Improvement percentage	
1	17%	82%	65%	
2	46%	100%	54%	
3	20%	85%	65%	

Table 1: Percentage of AOFAS Score pre and post operative

Patient's No.	ADTA		LDTA	
	Pre-operative	Post operative	Pre-operative	Post operative
1	102.94°	90.34°	85.55°	93.75°
2	89.03°	89.15°	75.20°	87.06°
3	90.57°	91.68°	84.43°	89.32°

Table 2: Pre and Post Operative Anterior Distal Tibia Angle (ADTA) and Lateral Distal Tibia Angle (LDTA)

Figure 1: Summary of post operative outcome in Table 1 and Table 2.



Figure 2: Pre and post operative x-rays of one patient.

DISCUSSIONS:

TAA shows good outcome and promising prognosis for properly selected patients. It can be used to restore to near normal ankle JL if properly done. Despite that fact, only two out of our three cases have the contralateral ‘normal’ JL that can be used as a reference. It was impossible to do so in another patient as patient had bilateral ankle osteoarthritis. Besides restoring JL, various discussion has been going on in foot and ankle fraternity on the importance of surgical release techniques and to which extent should a mechanical alignment restored. A superficial skin infection which resolved after regular dressing and an antibiotic course was the only complications observed thus far in one patient.

CONCLUSION:

We believed that TAA is a good option for a properly selected patient with an advance ankle osteoarthritis. ADTA and LDTA can be used reliably for the planning of surgery in some patient.

REFERENCES:

- Hodel et al., A novel approach for joint line restoration in revision total ankle arthroplasty based on the three-dimensional registration of the contralateral tibia and fibula. *Journal of Experimental Orthopaedics* (2023) 10:10
- Braito M et al., Effect of Coronal and Sagittal Alignment on Outcome After Mobile-Bearing Total Ankle Replacement. *Foot Ankle Int* (2015) 36:1029–1037