MANAGEMENT OF DIABETIC FOOT ULCER (DFU) USING TIBIAL TRANSVERSE TECHNIQUE (TTT), BONE LENGTHENING; BANGLADESH EXPERIENCE

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ABSTRACT

Diabetic foot ulcers (DFU) are typically chronic skin ulcers associated with deep tissue destruction around the foot and ankle region with varying degrees of lower extremity vasculopathy and neuropathy. DFU is associated with a high rate of morbidity, disability, mortality and psycho-social cost. We treated 38 cases of diabetic foot ulcers following Tibial Transverse Technique (TTT), Bone Lengthening. The TTT technique is based on Ilizarov's "law of tension-stress" for limb regeneration and functional reconstruction. The principle is that when appropriate tension is applied to living tissues, it promotes cell division and differentiation of adult stem cells like that in the fetal tissues development and lead to tissue regeneration. During and after TTT treatment, the patients reported immediate pain relief, a feeling of warmth in the diseased limb, and quantitative angiography confirmed the formation of rich neo-vascular networks in the diseased limb or ischemic areas. DO promotes capillary and vascular network regeneration and bone transport technique can significantly improve the microcirculation and soft tissue wound healing. In conclusion, TTT technique for DFU (Wagner III and above) have successfully conducted more than 38 cases. We performed TTT along with routine debridement and dressing change. TTT technique can significantly enhance diabetic ulcer healing, increase the limb salvage rate, and reduce the DFU recurrence rate.

Keywords: DFU, TTT, lengthening, amputation.