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Infected diabetic foot: additional surgical approach to stop the widespread suppurative process to tibia

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Aim: To suggest additional surgical technology – Fasciotendotomy (FTT) – for preventing ascending purulent infection widespread proximally from forefoot to tibia along the tendons in diabetic foot (DF) patients. M**aterials and Methods**: The essence of FTT is excision of 4-5 cm long piece of tendons of 3 muscle group: 1) m.tibialis anterioris, m.m. extensores digitorum and hallucis longi; 2) m. tibialis posterior, m.m. flexores hallucis longus and digitorum longus; 3) m.m. peronei longi and brevis to break the ways for ascending infection from foot to tibia. Besides, this procedure lowered subfascial pressure and, therefore, improve microcirculation. 3 incisions (4 –5 cm long) of skin and fascia were made above projection of these tendons. The wounds after FTT were left without sutures and had healed without complications. Two matched group of type 2 diabetes patients (mean diabetes duration was 9 years) with neuropathic and neuro-ischemic infected DF with necrotizing forefoot lesion including wet gangrene, osteomyelitis, plantar phlegmon (grade 3-4 after Wagner) and tendency to ascending process and fasciitis were treated. Control group consisted of 60 patients aged 43- 76 years (mean 65,8) were treated in 2006 year; 21 patient had neuro-ischemic DF. FTT-group included 57 patients aged 38-79 years (mean 66,5), operated later; 20 patients had neuro-ischemic DF . Clinical assessment, laser Doppler fluxmetry and TcpO2 measurement were used. TcpO2 in patients with neuro-ischemic DF was > 28 mmHg. Standard care including debridments and management of infection, diabetes, microcyrculation was given to all patients. Transmetatarsal amputation had been made in both group and simultaneously (just before amputation) FTT were performed in the FTT- group. Auto-dermic grafting was made to all patients after stump wound was prepared. **Results:** Above-knee amputation had to be made: A) in 6 (10%) control patients (four of them died) due to ascending fasciitis and wet gangrene; B) in 3 patients (5,2 %) from FTT- group (two of them died) due to dry gangrene. The reasons of death were uncontrolled infection, metabolic disorders and comorbidity. All these patients had neuro-ischemic diabetic foot with TcpO2 <35 mm Hg. **Thus**: fascio-tendotomy in severe cases of forefoot lesion enable us to prevent widespread infection to tibia, decrease the rate of major amputation of lower-extremity and improve the outcomes.