Long-term results after internal partial forefoot amputations

Summary / Zusammenfassung
Diabetic foot is a serious complication of diabetes mellitus and frequently results in forefoot ulceration. Biomechanical changes as result of the peripheral neuropathy and alterations of connective tissue (tendons, joint capsules) as a result of glycosylation lead to unphysiologically high pressures in the forefoot. Also because of concomitant problems as peripheral arterial disease or smoking, ulcerations often do not heal despite consistently conservative treatment. In case of chronic wounds the risk of osteomyelitis is high. In some cases, foot ulceration ends in a minor or major amputation.

Internal pedal amputation (synonyms: internal partial foot amputations, inner resections) is described as a possibility of resolving bone infection by simple resection of the infected bone with preservation of soft tissues and more distal bones, but also as a technique to facilitate the healing of diabetic foot ulcers by reducing pressure forces; also the application as a prophylactic measure to prevent ulceration is described.

Patients always live an amputation as a traumatic experience. Internal pedal amputation is an option, which maintains more esthetical integrity of the foot. Additionally, the preservation of soft tissue serves as a protection against more proximal soft tissue problems and the preserved toe can serve as place-holder to prevent deformation of neighbouring toes.

One of the problems after internal pedal amputations in literature is a high rate of re-amputation of about 20%. Also the problem of ulcer recurrence and transfer lesions is published. Only few data with short follow-up exists about rate of re-operation or re-amputation after internal pedal amputation. Also the risk of ulcer recurrence at the same area of the surgery or re-ulceration elsewhere is not well documented in the literature.

Goal of this retrospective study is the analysis of re-operation rate after internal pedal amputation and of ulcer recurrence / re-ulceration in patients undergoing internal pedal resection of joints, phalanx, or metatarsal head. The secondary aim of the study is to identify risk factors for these events. For these investigations the medical history will be studied and statistically analysed.

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