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Exostectomy for chronic midfoot plantar ulcer in Charcot deformity

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Background and aim: Midfoot Charcot exostosis in the plantar region may cause recalcitrant neuropathic ulceration. The literature on this type of ulcer is sparse. We analyzed retrospectively the results of surgical treatment with exostectomy.

Patients and methods: From 01.01.1999 to 30.06.2005 19 patients (20 feet) were treated. There were 4 women and 15 men, 18 with diabetes mellitus (15 type 2, 3 type 1) and 1 with peripheral neuropathy and Charcot deformity due to addiction to alcohol. The localization of the ulceration and underlying exostosis was plantar to the medial column 9, lateral 9, middle 2. 16 ulceration was Wagner grade 1 and 4 Wagner grade 2. The duration was on average 15 months (2–84). Previous treatment included off loading with Aircast® 9 months (2–24), debridement, wound care and antibiotics. During the conservative treatment 6 ulcers had improved from Wagner grade 2 or 3 to grade 1. 8 patients had other foot ulcerations at the time of surgery. The exostectomy was made under local anesthesia with incision along the base of the exostosis and primary closure with suction drainage. Local (gentamycin) and systemic antibiotics were used. Weightbearing was allowed with Aircast®, when the incision had dried out. Bespoke shoes were used in all patients.

Primary results: In 17 patients, 18 feet (90%) the ulcers healed. One patient died 2 months after surgery from unrelated cause. One patient with a short forefoot amputation stump had several additional surgical procedures, but did not heal completely. Time to healing was: plantar ulcers 7,1 weeks (3–23); surgical incision 7,7 weeks (3–27). Complications: infection 4, hematoma 1.

Follow up: All patients were followed in the outpatient clinic 29 months (2–70) after. In 7 patients (37%) the ulcer recurred, in 2 patients twice. Time of recurrence 15 months (2 – 70). Five required repeat exostectomy. At follow up 3 patients had deceased, one with a non healed Charcot ulcer and 2 with recurrent ulcer. Thus 14 of the 16 (87,5%) of the Charcot ulcers in patients alive were healed. The most of recurrent or non healing ulcers were in the lateral column.

Conclusion: Surgical treatment is safe and effective. Multidisciplinary approach and lifelong follow up is advisable. The lateral midfoot plantar ulcers are prone to recurrence.