



## AB234. 28. Primary results of bone biopsies in outpatients with neuropathic ulcers—comparison with wound swabs and superficial tissue samples

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**Background:** Patients with Charcot foot disease often develop ulcers that probe to bone due to progressive deformity and loss of protective sensation. In our study we compare the results of bone biopsies with wound swabs and find which method provides the most accurate result in order to diagnose and treat osteomyelitis, especially in cases where reconstruction is planned.

**Methods:** Samples were obtained from 35 patients by three different doctors with aseptic technique through intact skin, superficial ulcer swabs were also obtained for comparison. Inclusion criteria included the presence of neuropathy and foot ulcers with exposed bone (Grade 3 University of Texas

wound classification).

**Results:** In 37 patients two procedures were abandoned due to pain; otherwise no complications during or after the biopsy occurred. There was bacterial growth in 40% of bone biopsy samples, compared to 65.7% of superficial swabs. Cultures were polymicrobial in 35.7% of positive biopsies and 82.6% of positive ulcer swabs. Concordance between bone biopsy and swab results was seen in 16/35 (45.7%) of samples. In 7 patients both tests were negative and in 9 both positive. 7/9 positive samples grew both the same organism.

**Conclusions:** Our study showed that there is poor concordance of the results for the two tests. Wound swabs have high rates of polymicrobial cultures. Bone biopsies are more reliable in confirming the specific microbial organism and dictating the need for and type of antibiotic. Targeted antibiotics can thus be safely used. Furthermore, pain is not a limiting factor for neuropathic patients.

**Keywords:** Bone; biopsy; wound swab; concordance

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