

Diabetic Foot Osteomyelitis can be successfully treated with antibiotics

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Background: Osteomyelitis (OM), a common complication of diabetic foot ulcer, is associated with higher risk of amputation. In our centre we treat OM primarily with antibiotics and we wanted to study the outcome of patient who had diagnosis of OM.

Aims of study: The aim of this study was to analyse clinical outcome of subjects who had diagnosis of OM in the past 5 years.

Subjects & Methods: In this retrospective study, cases were selected from the electronic record with the diagnosis of OM. Results were crosschecked with radiology database. Pathology and microbiology database were also used to collect data.

Results: 147 cases had clinical diagnosis of OM out of which 130 (mean age 66.2 ± 14.4 years and mean duration of diabetes 13.2 ± 10.9 years) had diagnosis reconfirmed on at least one of the established criteria (Probe to bone 102, X-Ray changes 69, Bone scan 27, leukoscan 4 and bone biopsy 5). Of these reconfirmed cases, majority (66.9%) were male and had type 2 diabetes (80%) with mean HbA1c of $8.1 \pm 2.1\%$ and cholesterol of 4.2 ± 1.5 mmol/L. Peripheral vascular disease, defined by absence of palpable pulses, was present in 61 (46.9%) subjects. Blood count performed on 112 cases showed raised neutrophil count (>7.5) only in 26 (23.2%). 64 had staphylococcus isolated from wound swab of which 20 (31.3%) had MRSA. Flucloxacillin and fusidate combination was used in 81 cases whereas ciprofloxacin and clindamycin combination was used only in 17 cases. 87 (66.9%) healed with single (n=46) or multiple (n=41) courses of antibiotics. 18 (13.8%) had amputation of which 16 (12.3%) were minor (Toes or Ray amputation) and 2 (1.5%) were major (above or below knee). 12 (9.2%) had vascular intervention (8 angioplasty & 4 bypass) and 8 (6.2%) died within 12 months of diagnosis due to other causes. There were no differences in outcome between subjects with or without x-ray changes. When compared between those which healed (n=87) and those patients who died or needed amputation (n=26), there was no difference in age sex, duration of diabetes, site of ulcer, presence of x-ray changes or peripheral vascular disease. OM due to MRSA was the only factor that predicted adverse outcome (21.1% vs 53.3%; $p=0.04$). Higher rate ($p=0.01$) of adverse outcome was noted in patients using combination of ciprofloxacin and clindamycin, which may be due to its use as a last resort in our clinic. **Discussion:** Our data confirms that OM can be successfully treated with antibiotics. Flucloxacillin and fusidate can be used as first line treatment in majority of cases. Surgery should be reserved only for cases that fail to respond to medical treatment.