

[O07] PROSPECTIVE ASSESSMENT OF WHITE BLOOD CELL SPECT/CT IN MONITORING ANTIBIOTIC TREATMENT IN PATIENTS WITH DIABETIC FOOT OSTEOMYELITIS

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Aim: Osteomyelitis is a risk factor for lower extremity amputation in diabetic people. Antibiotic therapy allows a remission in 60 to 80% of cases. However the optimal duration of antibiotic therapy remains controversy due to the absence of validated marker of osteomyelitis remission. We have previously shown that the negativity of white blood cell SPECT/CT imaging at the end of treatment allowed to predict remission of osteomyelitis at 1 year in all cases. A positive imaging was associated with recurrence in 70% of cases. The aim of our study was to evaluate prospectively the interest of white blood cell SPECT/CT to set the duration of antibiotic therapy.

Method: Patients with a clinical and radiological diagnosis of osteomyelitis were included in two diabetic centers between April 2014 and January 2016. On the 56 patients included, 40 had a follow-up longer than 6 months. White blood cell SPECT/CT was performed after 6 weeks of appropriate antibiotic therapy. In the absence of abnormal uptake, antibiotic therapy was discontinued. In case of abnormal uptake antibiotic therapy was continued for a total of 12 weeks and then stopped after a new SPECT/CT. Remission was defined as the absence of recurrence of osteomyelitis on the same location at 6 months.

Results/Discussion: The location of osteomyelitis was mainly a toe (46%) or a metatarsal bone (49%). The mean duration of the wound was 18 ± 32 weeks. The mean number of microorganism was 2.6 per cases. Staphylococcus aureus methicillin-sensitive was found in 55% of cases and there was no strain of Staphylococcus aureus methicillin-resistant. Antibiotics were stopped at 6 weeks in 50% of cases according to a negative white blood cell SPECT/CT. Abnormal uptake persisted at 12 weeks in 60% of the 20 patients with abnormal uptake at 6 weeks. No recurrence was observed at 6 months for all cases with a negative SPECT/CT at 6 or 12 weeks. For cases with an abnormal uptake at 12 weeks, the recurrence rate was 50% after a median delay of 4 months (2-7). The total remission rate was 85%.

Conclusion: These preliminary results using white blood cell SPECT/CT in monitoring antibiotic treatment of diabetic foot osteomyelitis show that at least 50% of patients are in remission after 6 weeks of antibiotic therapy. Despite the extension duration of antibiotics, 30% present an osteomyelitis recurrence. These data are in line with the new recommendations of IWGDF who advocate that a 6 weeks antibiotic therapy in diabetic foot osteomyelitis would be sufficient for most of the patients.