Impact of metabolic control on diabetic foot and diabetic kidney disease in type-2 diabetes

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Objectives: To assess the correlation between the risk scores for ulceration of the foot and the degree of chronic kidney disease, in contrast to determining the impact on metabolic risk factors and timely identifying factors of progression that affect the risk for foot ulceration and the degree of renal disease in patients with type-2 DM.

Material & Methods: It is a cross-sectional study, in which during Visit 1 (V1) a total number of 107 hospitalized patients with DM type-2, aged 35-65 years, of both sexes were examined; whereas 6 months later, during Visit 3 (V3) 104 patients were examined. The patients were examined and tested for diabetic foot and classified according to the International Working Group for diabetic foot - IWGDF into 3 groups: Medium risk, high risk and very high risk (1-3), they were also examined for renal disease according KDOQI (Clinical Practice Guideline for Diabetes and CKD) and classified in degrees (2-4) according to EGFR Cockcroft-Gault and MDRD.

Results: Of a total number of 107 patients, 50.5% were men and 49.5% women. The average age was 59.12 years, furthermore the average duration of diabetes was 12.9±6.15 years and the average HbA1c 9.5±1.86%, while 6 months later the HbA1c was 8.8% (p<0.004). BMI was 28±3.3 kg/m2. The risk score in V1 and V3 has statistical significance (p<0.004), i.e., V3 shows higher risk score. In groups, the largest percentage of 60% had score of 1, 20% had score 2 and 15% had score 3. The average eGFR was significantly higher in the beginning (V1=78.02±24.08, V3=71.48±21.41, p<0.039) and 70% had micro-albuminuria. About 30% had grade 3 and 4 of nephropathy. The correlation shows that groups with higher risk of ulceration score (2.3) have also a higher degree of nephropathy (3.4) during V1 and also during V3 (p<0.001).

Conclusion: In individuals with T2DM and average age, the duration of type-2 DM, HbA1c and high BP have a significant role in the assessment of risk for ulceration of the foot and the progression of CKD. Patients with high risk for ulceration scores, relate with a higher degree of nephropathy.