[P26] ROLE OF CALCANEAL QUANTITATIVE ULTRASONOMETRY FOR DIAGNOSIS OF CHARCOT FOOT IN PATIENTS AFTER PANCREAS TRANSPLANTATION

Robert Bem[1], Alexandra Jirkovská[1], Jana Brunová[1], Andrea Němcová[1], Michal Dubský[1], Simona Kratochvilova[1], Vladimíra Fejfarová[1], Veronika Wosková[1], František Saudek[1]

[1]*Diabetes Centre, Institute for Clinical and Experimental Medicine, Prague, Czech Republic*

Aim: Previous studies showed high incidence of Charcot foot (CF) after simultaneous pancreas and kidney transplantation (PTX). The reason may be the persisting bone renal disease affecting also bones of the feet. Measurement of bone mineral density (BMD) especially in the calcaneal area may be helpful in diagnosing of CF in this high risk population. The aim of our study was to compare calcaneal quantitative ultrasonometry (QUS) parameters in patients after PTX with/without CF with patients with severe diabetic neuropathy (DN) and with CF patients.

Method: 72 diabetic patients were enrolled in the present study – 12 patients after PTX with inactive CF (PTX CF group); 20 after PTX without CF (PTX group); 20 patients with severe DN, but without CF (DN group) and 20 patients with inactive CF (CF group). BMD in calcaneal area was measured in both feet by QUS in the CF groups; in patients without CF (PTX and DN groups), the foot with the worse T score was used for later analysis. Osteoporosis measured by calcaneal QUS was defined as T-score ≤−1.8. BMD in the lumbar spine and proximal femur was assessed by dual energy X-ray absorptiometry (DEXA) by standard criteria.

Results/Discussion: There was a significant lower calcaneal BMD in affected foot in both PTXCF group (T score -3.3±1.9) and CF group (-3.8±1.9) in comparison with DN group (vs.-1.1±1.3; both $p<0.01$) and also with PTX group (-2±1.3; both $p<0.05$). Calcaneal BMD in non-affected foot in PTXCF (T score -2±1.1) was comparable with PTX group and both were significantly lower than in DN group (both $p<0.05$). The frequency of calcaneal osteoporosis of affected foot in PTXCF group was comparable with affected foot in the CF group (83% vs. 95%), but patients in the DN group had osteoporosis less often than both previous groups (50%; both $p<0.05$). BMD in the lumbar spine and proximal femur in both PTXCF and PTX group were significantly lower in comparison with both DN and CF group (all $p<0.05$).

Conclusion: Lower bone mineral density persists in all assessed localizations including calcaneal area in patients after pancreas transplantation, which may result in higher risk for Charcot foot after pancreas transplantation. Calcaneal quantitative ultrasonometry may be useful method for diagnosis of Charcot foot in patient after pancreas transplantation.

Supported by the MZO 00023001