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Prospective study of dialysis patients in three dialysis centers.

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Aim: To study dynamic changes of distal polyneuropathy, vascular status of low extremities and to screen new cases of foot problems in patients on dialysis therapy.

Methods: We studied 109 dialysis patients in 3 dialysis center. Follow-up period - Me=18 months. Mean age 49 yrs. 60 had diabetes mellitus (DM) (29 on haemodialysis (HD), 31 on peritoneal dialysis (PD)) and 49 were non-diabetic (NDM) patients (matched by sex, age and dialysis duration to DM group) (24 on HD, 25 - on PD). Mean diabetes duration was 24 yrs; 60% of patients had type 2 diabetes. Mean PD duration was 31 yrs, HD duration 33 months. Distal polyneuropathy was diagnosed according to NDS scale. Vascular status was assessed by Doppler and toe pressure (photoplethysmography) measurements. Progression of polyneuropathy was determined as increasing on 1 point in NDS scale. Progression of peripheral vascular disease (PVD) - as increasing of PVD stage. **Results:** At first visit polyneuropathy was diagnosed in 85% (51/60) patients with diabetes (DM), and in 14% (7/49) of patients without diabetes (NDM). PVD - 26,6% (17/60) in DM group and 4% (2/49) in NDM group. Ulcers were diagnosed only in DM patients, prevalence - 13,3% (8/60, 5 neuroischemic ulcers and 3 neuropathic ulcers). Charcot osteoarthropathy was detected in 2 diabetic patients (3,3%): in 1 patient on HD (acute stage) and in 1 on PD (quiescent stage). 2 diabetic patients with neuropathic ulcers had amputations below knee (before dialysis therapy). **During follow-up period** we observed 85 patients. 9 DM patients and 4 NDM patients had progression of polyneuropathy. Increasing of PVD stage was determined only in 2 DM patients on HD. We found out 3 new cases of neuroischemic ulcers, 1 neuropathic ulcer and 1 acute stage of Charcot osteoarthropathy. 24 patients were withdrawn. 16 of them were died. There are no significant difference in prevalence of lethal outcomes between group of DM and NDM patients (DM patients vs NDM - 12/60 vs 4/49, $p=0,076$; $\chi^2=0,071$). Lethal outcomes were more frequent in the group of diabetic patients with ulcers, then without (group with ulcers vs without ulcers - 6/12 vs 6/48, $p=0,015$). 2 of them died in postoperative period. **Conclusions:** Dialysis DM patients with ulcers have not only long healing period, low quality of life, poor chance for kidney transplantation but also have a high prevalence of lethal outcomes. Prevention and treatment of diabetic foot problems in patients undergoing dialysis need modern and multidisciplinary foot care. It is necessary to standardize prevention and treatment programs for this group of patients.