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Understanding real prevalence of diabetic foot ulcers and amputations in Russia and possible causes of its underestimation in epidemiologic studies

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Background: In most of populations prevalence of foot ulcers is 4-10% of diabetic patients [1]. Nevertheless, a large-scale study in Sankt-Petersburgh, Russia [2] revealed ulcers only in 3.1% (3.0% of type 1 and 3.8% of type 2 DM). In other Russian studies ulcers prevalence was even lower. Aim of this study was to assess real prevalence of diabetic foot ulcers and amputations in Russian population.

Methods: According to Diabetes Registry program random samples of diabetic patients were investigated in several regions of the country with aim to control registry data reliability. This investigation included a visit to mobile diabetic foot clinic. 8244 adult diabetic patients in 20 regions were studied. Randomized samples based on Registry data were formed independently for type 1 and 2 DM, so 3741 patients with type 1 and 4503 with type 2 took part in this study. **Results and discussion:** Mean prevalence of foot ulcers in type 1 patients appeared to be 2.2% (0-5.3% for different regional samples), in type 2 patients - 2.0% (0.4-4.1%). Minor amputation history had 1.2% (0-3.2%) type 1 and 0.7% (0-1.8%) type 2 patients. Major amputation history had 0.4% (0-1.6%) type 1 and 0.1% (0-1.4%) type 2 subjects. Strict diagnostic criteria of ulcers and amputations in our study could also reduce their prevalence: only true chronic ulcers (not superficial injuries) and only DM-related (not traumatic) amputations were taken into account. Besides that, low prevalence may be partly explained by some limitations of our study: (1) Patients hospitalized at the moment of screening (including ones with foot complications) were not included in the study; (2) Some patients being included in random sample refused of investigation and were replaced by other randomly selected persons. Perhaps, patients with lower compliance, lower socio-economic status and with more severe diabetic complications limiting outdoor mobility more often refused of screening; **Conclusions:** All epidemiologic studies in Russia revealed low prevalence of diabetic foot complications, but it may be underestimated. Further study targeted to hospitalized patients as well as to outpatients is necessary.

References:

1. International Consensus on the diabetic foot, 1999
2. Bregovsky V., "Role of risk factors, foot biomechanics, clinical peculiarities and medical decisions in early and late prognosis of diabetic foot". PhD study, 2006