

Diabetes related lower extremity amputations in Sweden before and after implementation of a consensus program for the prevention of the diabetic foot -

A population-based cohort study

Junmei Miao Jonasson^{1,2}, Weimin Ye¹, Pär Sprén¹, Jan Apelqvist³, Kerstin Brismar^{2*}

¹ Department of Medical Epidemiology and Biostatistics, ² Department of Molecular Medicine and Surgery, Karolinska Institutet, SE 171 76, Stockholm, Sweden

³ Department of Internal Medicine, University Hospital, SE 22185, Lund, Sweden

Research Design and Method: Register-based cohort study in Sweden. All 257,582 patients hospitalized for diabetes mellitus according to the Swedish Inpatient Register during 1989-1998. Follow-up through cross-linkage in the hospital register and linkage to the death and migration registers. We divided Sweden into 7 regions based on the university hospital referent areas. Poisson Regression model was used to analyze the time trend of the lower extremity amputation and the regional differences before and after the preventive consensus was launched in 1999 by using the Stockholm region as the reference. **Objective:** To analyze the trend of the hospitalization rate of diabetes related lower extremity amputations prior and after the Swedish preventive consensus for the diabetic foot launched in 1999 among patients who ever hospitalized from 1989 to 2004. **Results:** A decreasing trend for the lower extremity amputations was observed in the study cohort (RR 0.601, [95% CI 0.524-0.688], $P < 0.01$) and the Swedish general population (RR 0.970, [95% CI 0.969-0.972], $P < 0.01$), respectively. The presence of diabetic complications conferred increased risk for lower extremity amputations. The risks for amputation of above knee, below knee and below ankle decreased significantly for the period 1999-2004 compared to the period 1989-1998 (RR: 0.75, [95% CI 0.66-0.85], 0.57 [95% CI 0.50-0.66], 0.65 [95% CI 0.58-0.74]). Compared to region A, all other regions had no significant difference in the lower extremity amputations for the period 1999-2004, even though they had higher risk for the period 1989-1998. **Conclusions:** The incidence for the diabetes related lower extremity amputation had decreased significantly through the last 25 years. The implementation for the national preventive consensus had been efficient in lowering the risk of lower extremity amputations in general and also abolishing the regional difference for the risk of lower extremity amputations.