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The Tactile Circumferential Discriminator: an Instrument for Detecting Patients at Risk of Foot Ulceration

In a paper recently published in *Diabetes Care*, L. Vileikyte et al. (1) show that the tactile circumferential discriminator (TCD) is a simple screening device to identify diabetic patients at risk of foot ulceration.

With a similar design, we have published in a recent issue of *Revista de la Asociación Latinoamericana de Diabetes* (2) our experience with the TCD. We studied 57 NIDDM patients (19 women, 38 men). The mean age was 60.02 years and median duration of diabetes was 11.38 years. Vibration perception thresholds (VPTs) were measured with a biothesiometer at the great toe, with the probe balanced vertically on the pulp of the toe. We used a cutoff point of 25 V as a criterion for ulcer risk as Young et al. (3) defined in their prospective study. Tests with the TCD were done using a similar protocol, but were performed over the first phalanx, not on the plantar aspect. We also compared quantitative sensory testing with the 5.07 monofilament.

Although we used different areas of perception, our results were similar. A TCD >6 had a sensitivity and specificity of 81 and 86%, respectively, to find the patients with VPT >25 V. The inability to perceive the 5.07 monofilament had a sensitivity and specificity of 86 and 87%, respectively.

However, to determine the strength of any diagnostic test, it is more important to define the negative predictive values (NPVs) and the positive predictive values (PPVs). In our 57 patients, the PPVs to have VPT >25 V were relatively low (0.54 for TCD >6 and 0.63 for the inability to perceive the 5.07 monofilament). The NPVs, for both, were 0.96. If a patient has a TCD <6 or if the ability to perceive the filament is normal, the chance of having a VPT <25 is 96%.

We believe that these tests have good NPVs and are useful to exclude a level of neuropathy associated with an increased risk for foot ulceration.

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Incidence of Type 1 Diabetes in Germany Is Not Higher Than Predicted

Neu et al. (5) published the incidence of type 1 diabetes in former West Germany. They calculated the incidence in 0- to 14-year-old individuals to be between 10.6 and 11.6 cases per 100,000. The authors repeatedly say that this is much higher than assumed. However, the authors fail to consider the effect of bacille Calmette-Guérin (BCG) vaccination, which can explain the higher rate.

Our studies (1-3) have compared the incidence of type 1 diabetes in 0- to 14-year-olds living in western European countries not administering BCG to the incidence in countries administering BCG starting at birth and school age. The incidence of type 1 diabetes in countries not immunizing with BCG (Iceland, Netherlands, Spain, Belgium, and Luxembourg) was 10.92 cases per 100,000 (range, 9.8-12.4), compared with 7.4 cases per 100,000 (range, 6.8-7.8) in countries immunizing at birth (Republic of Ireland, France, Austria, Switzerland, and Portugal) and 19.02 (range, 16.4-20.8) in countries immunizing at school age (Northern Ireland, England, Scotland, Denmark, and Norway). Our ecological data is supported by analysis of Swedish birth cohorts (1) and by our analysis (unpublished observations) of data from Montreal (4).

BCG was infrequently given in the former West Germany after the early 1980s (World Health Organization data) and the incidence of type 1 diabetes is very similar to that of other countries listed above not giving BCG. The authors made their prediction based on data from the old East Germany, which was 7.4 cases per 100,000.