Use of Diaskintest for selection of children and adolescents from tuberculosis risk groups for preventive therapy

Larisa I. Mordovskaya¹, Natal'ya M. Oshchevkova¹, Evgeniya N. Il'ina², Maria K. Vinokurova³, Alexander F. Kravchenko⁴

¹Research & Practice Center for Tuberculosis of the Sakha Republic (Yakutia), Russia, limordovskaya@mail.ru

Background

Extreme environment, low population density, and troublesome road pattern are characteristic features of the Sakha Republic (Yakutia), associated with challenges in the organization of public health care. Tuberculosis (TB) is considered an endemic disease in Yakutia, and is one of the urgent social and health care problems. Incidence of TB among pediatric population remains high. Starting in 2010, a novel test for TB infection, Diaskintest (DST) based on recombinant allergen derived from ESAT-6 and CFP-10 proteins, has been included to compulsory examination of children and adolescents.

Material and methods

We examined 783 children and adolescents aged 1 to 17, residents of the Tulagino village, having the following diagnoses: postvaccinal complications (PVC) (n=318), early phase of primary TB infection (EPPTBI) (n=195), growing tuberculin sensitivity (n=259), condition after localized forms of TB (n=11). All patients received 2 tests at a time (Mantoux test with 2 TU PPD-L and DST); tests were administered and interpreted in compliance with practice guidelines.

Results

In 195 children with EPPTBI, DST results were: negative (162; 83%), doubtful (23; 12%), positive (9; 4.6%). DST results in patients with growing tuberculin sensitivity were: negative (195; 75.3%); doubtful (34; 13.1%); positive (28; 10.8%), hyperergic (2; 0.8%). DST results in patients with PVC were: negative (99%), or doubtful (3; 1%). Patients with a condition after localized forms of TB (n=6) had the following responses to DST: hyperergic (5; 83.3%), markedly positive (1; 16.7%), positive (5).

Conclusions

DST allows accurate identification of children and adolescents at high risk for TB, to select patients for preventive therapy.