THE PREVALENCE OF NEISSERIA MENINGITIDIS CARRIAGE WITH IDENTIFICATION OF SEROGRAPHS AND GENOGROUPS IN PROFESSIONAL SOLDIERS

K. Korzeniewski¹, M. Konior¹, M. Kiedrowska², E. Wódka³, E. Zwolińska⁴, A. Skoczyńska²

¹ Department of Epidemiology and Tropical Medicine, Military Institute of Medicine, Warsaw, Poland
² National Reference Centre for Bacterial Meningitis, National Medicines Institute, Warsaw, Poland
³ Department of Medical Diagnostics, Military Institute of Medicine, Warsaw, Poland
⁴ Department of Gynecology, Holy Family Maternity Hospital, Warsaw, Poland

Background. The article presents the prevalence of Neisseria meningitidis carriage with identification of sero- and genogroups in professional soldiers serving in the Polish Armed Forces.

Material and methods. A total of 1,246 soldiers from the 10th Armoured Cavalry Brigade in Świętotszów, Poland were examined in the period January-February 2016. Microbiological tests were performed using standard methods (culture, incubation, microscopy, biochemical and automated identification with VITEK cards). Neisseria meningitidis isolates from carriers were subjected to slide agglutination test (identification of serogroups), next bacterial DNA was isolated and genogroups were identified based on the results of PCR.

Results. Of 1,246 soldiers tested, 65 were found to be carriers of N. meningitidis. Serogroups of 36 isolates and genogroups of 56 isolates were determined. Genogrouping was performed and the isolates were identified as belonging to group B (n=34; 52.3%), E29 (n=8; 12.3%), C (n=6; 9.2%), Y (n=6; 9.2%), and W (n=2; 3.1%). The primers which were used did not make it possible to determine the genogroup of 9 isolates.

Conclusions. The overall carrier rate of N. meningitidis in the study group was 5.2%, serogroup B being predominant, which is similar to the carrier rates reported in the general population in Poland and Central Europe.