

forms of infection indicates the imperfection of activities to identify hidden forms of the disease. The socio-professional structure corresponds to the risk groups specified in the guidelines. The study showed that the incidence of viral hepatitis B in health care workers is still an actual problem, despite the high efficiency of the activities and programs.

1.16

doi: 10.15789/2220-7619-2018-4-1.16

THE PREVALENCE AND MOLECULAR EPIDEMIOLOGY OF *STENOTROPHOMONAS MALTOPHILIA* IN THE INTENSIVE CARE UNITS

E.V. Zueva, Yu.V. Ostankova, E.B. Zueva

St. Petersburg Pasteur Institute, St. Petersburg, Russia

Stenotrophomonas maltophilia is a ubiquitous aerobic nonfermentative Gram-negative bacillus that exists in humid environments, water sources, soil, and plants. *S. maltophilia* has the ability to colonize epithelial cells of the respiratory tract and surfaces of medical devices. This nosocomial pathogen that is highly antibiotic resistant and associated with high morbidity and mortality, particularly in immunocompromised or critically ill patients. Episodes of fever and neutropenia are common complications of treatment for cancer. The use of prophylactic and early empirical antibiotics has reduced mortality but decreases

the sensitivity of diagnostic tests based on culture. It seems obvious importance of early identification of *S. maltophilia*.

This study was aimed to determine the prevalence of *S. maltophilia* in the intensive care units.

The material was *S. maltophilia* isolates, collected from 392 samples, including patient's blood, medical devices, surfaces, beds and the surroundings of patients in wards. Genotyping was performed using sequencing of 16S rRNA gene. The 16S rRNA sequence of each strain was aligned with 16S rRNA gene sequences from the GenBank sequence database using the BLAST algorithm.

A total of 47 (11.9%) isolates of *S. maltophilia* were recovered from patients and environmental samples. Most of the isolates were not genetically related. However some isolates found from the surroundings of patients in wards were genetically similar to those obtained from patients. So some evidence of clonal dissemination was found, indicating the occurrence of cross-transmission of antibiotic-resistant strains within the hospital.

The presence of *S. maltophilia* in the hospital environment indicates that it can act as a reservoir of this microorganism. This underscores the need for effective control and prevention measures in hospitals. Using sequencing 16S sequence reduces time of identification bacteria, including allowing the identification of the object directly from the patient's blood.