THE USE OF DIFFERENT RESEARCH METHODS IN THE DIAGNOSIS OF INFLUENZA

L.B. Brydak[1,2], A. Woźniak –Kosek[1], A. Nitsch-Osuch[3]

[1]Department of Influenza Research. National Influenza Center, National Institute of Public Health – National Institute of Hygiene, Warsaw, Poland, Chocimska street 24, 00-791 Warszawa; lbrydak@pzh.gov.pl; [2]Department of Microbiology and Immunology Faculty of Biology, University of Szczecin, Szczecin, Poland; [3]Department of Family Medicine, Warsaw Medical University, Poland

The statement made by the American researcher Kelvin Sullivan in the last century that influenza is the "last uncontrolled plague of mankind" continues to be valid at the beginning of the twenty-first century. The estimates calculated and presented by the WHO show that the infections caused by influenza and influenza-like virus affect between 330 million and 1575 billion individuals each year. In Poland between several thousand and several million cases of influenza and suspected influenza cases are registered, depending on the epidemic season. It is very likely that a significant proportion of infections with influenza virus in symptomatic patients remain undiagnosed because of the lack of diagnostic opportunities. This situation is most often encountered in the outpatient setting when preliminary screening with a quick test based on immunological methods, for the presence of influenza virus, could provide a result after only 15 minutes. A variety of methods are available for the detection of the influenza viruses responsible for respiratory infection starting with the isolation of the virus in chick embryos or in cell lines such as MDCK, VERO, etc., and finishing with a variety of modifications of the classical PCR molecular biology such as PCR multiplex and Real-Time. Molecular biology methods provide for the detection of influenza viruses in material which cannot be cultured or if the number of viral copies is too small to get a positive result when applying the classical methods for the detection of the influenza virus.