

Abstract

Zuzana Slámová

Diagnostics of exanthematic childhood diseases

Bachelor thesis

Charles University, Faculty of Pharmacy in Hradec Králové

Health bioanalytics

Background:

The aim of the bachelor thesis was to determine the morbidity, incidence and prevalence of selected exanthematic childhood diseases (measles, scarlet fever, rubella, fourth disease, fifth disease and chickenpox) in the period 2013 - 2016 at the Department of Clinical Microbiology and Immunology of Regional Hospital Liberec, a. s. including a comparison with occurrence of diseases in the whole Czech Republic.

Methods:

The methodical part was focused on the methods which are the basis of specific analyzers at the Department of Clinical Microbiology and Immunology of the Regional Hospital Liberec, a. s. These methods are ELISA, CLIA, KFR, PCR and cultivation. Analyzers used to diagnose antibodies against selected diseases are Alegria® (ORGENTEC), LIAISON® XL (DiaSorin) and Chorus Trio (DIESSE). For the direct quick detection of the disease was used quantitative PCR (qPCR) method on the CFX96 Touch™ Real-Time PCR Detection System (BioRad). Detection of bacterial agents was performed by cultivation.

Results:

The results were processed over the period 2013 - 2016 from data provided by the Department of Clinical Microbiology and Immunology (DCMI).

Measles was diagnosed in 3.46% of the total number of patients tested at DCMI. Positivity on scarlet fever was detected in 1.49% of patients. For rubella the occurrence of the disease was confirmed only in one case from the whole number of tested patients (0.28%). Fourth disease was confirmed in 12.61% of patients, fifth disease caused by B19 virus in 4.51% and chickenpox or shingles only in 3.15%.

Conclusion:

The results show that the most of tested patients at DCMI were patients suffer from Varicella zoster virus which causes chickenpox or shingles, the least suffer from measles virus. The most patients and therefore the highest morbidity at DCMI had patients with a fourth disease caused by enterovirus and scarlet fever. The lowest incidence had rubella at both DCMI and throughout the Czech Republic.