

Abstract

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Title of diploma thesis: Incidence of methicillin-resistant *Staphylococcus aureus*
in University Hospital Hradec Králové 2011-2012

Methicillin-resistant *Staphylococcus aureus* (MRSA) is a global health-care problem. This is the main cause of serious nosocomial infections that are difficult to treat due to resistance to an increasing number of antibiotics. Now these resistant strains are also present in the community.

This diploma thesis summarizes the findings about the mentioned issue and deals mainly with the diagnosis, treatment and epidemiology of MRSA. The practical part is focused on the incidence of new cases of MRSA in the University Hospital Hradec Králové in 2011-2012. The monitored characteristics are: origin of the isolates according to type of material and representation in individual clinics and hospital wards, age and sex of patients and period of capture. The antibiotic resistance profile of MRSA strains in 2008-2012 was also studied.

New cases of MRSA in both years were the most frequently detected from samples from the respiratory tract (46% in 2011 and 44% in 2012), followed by samples from wounds and defects (28% or rather 32%). Risk group of patients were men aged between 55-74 years. The highest incidence of new cases was recorded in the gerontology and metabolic clinic and higher rate of incidence was observed in intensive care units compared to standard units. In the period 2008-2012 MRSA strains resistant to ciprofloxacin, erythromycin and clindamycin had the largest share (88%) in the FN HK, and there was observed their gradual ascent during this period.

Despite the new reports that the increasing trend in the incidence of methicillin-resistant strains of *S. aureus* from previous years is stabilizing and there is a gradual decreasing, which is also confirmed by the results of this study, should be in hospitals continue to consistently follow infection control measures, monitor the incidence of these strains and further development of resistance to antimicrobial agents. Prevention should be focus mainly on the risk groups of patients.