Human Vaccination: Current Trends and Challenges in Hungary

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Abstract

Vaccine-preventable infectious diseases continue to represent a significant challenge in Europe due to various reasons. These include the spreading reluctance of parents to get their children vaccinated, the quality and efficacy of vaccines, concerns of re-vaccination to provide long-term immunity, vaccination of pregnant women, financial issues, geographical mobility and recent outbreaks in Europe, particularly measles.
The vaccination rate in Hungary is traditionally very high, almost 100 % due to the good compliance. The vaccination schedule is also updated on an annual basis according to current trends and requirements. These changes include the introduction of obligatory pneumococcal conjugate vaccine (PCV-13) from 2 months (in 2014) and offering human papilloma virus (HPV) vaccine for girls at the age of 12 years (bi-, tetra- and nonavalent vaccines are available).
Current issues relate to meningococcal vaccines that are available but not financially supported. Vaccines against B and C serogroups of *Neisseria meningitidis* are recommended to certain groups of people, being the two most prevalent serogroups in Hungary in the least few years with a strong dominance of group B (32 out of 48 cases in 2016/2017 season). There are similar concerns about rotavirus and chicken pox vaccines which may be the next new obligatory vaccine in Hungary. Other experts suggest serological screening for varicella to check immunity.
The most important non-obligatory vaccines in Hungary may be considered the (1) meningococcal vaccines: group C or groups A,C,Y,W-135 AND group B because of the high letality of systemic meningococcal infections, (2) HPV vaccines because of the oncogenicity of certain serotypes, (3) hepatitis A vaccine due to recently increased incidence in Hungary and neighbouring countries and (4) vaccine against tick-borne encephalitis (FSME) as the number of reported cases has been increasing in several European countries including Poland and the Czech Republic.

Keywords: meningococcal vaccine, measles, PCV, indications for non-obligatory vaccines

Professional Biography

Dr. Gergely Krizsán has graduated at Semmelweis University in 2008, Budapest, Hungary as a medical doctor and has completed his training in medical microbiology in 2013. Since 2014 he works as a locum Consultant Microbiologist (including Infection Prevention and Control activity) throughout the Republic of Ireland and the United Kindgom. Dr. Krizsán is mostly interested in antibiotics (including implementation of guidelines, rationalisation of prescription, clarification of resistance mechanisms, detection of resistance *in vitro*), development of rapid diagnostic methods, improvement of the interpretation of microbiology reports, multidisciplinary consultations and vaccines, including vaccination schedules,

indications of non-obligatory vaccines and education. He has publications about the biofilm formation of *Pseudomonas aeruginosa* and the antibiotic resistance of *Stenotrophomonas maltophilia* and has also been investigating the antibiotic susceptibility profile of nosocomial Corynebacterium isolates. Dr. Krizsán has also been teaching chemistry, biochemistry and microbiology for medical, dentistry and pharmacology undergraduate students.

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