

Pertussis is a disease with high infectiousness, caused by gramnegative bacteria *Bordetella pertussis*. *Bordetella* colonizes the respiratory epithelium and induces typical symptoms. The main factors of pathogenesis are filamentous hemagglutin (FHA), pertussis toxin (PT), pertactin (PRN), fimbrial agglutinogens (fim2, fim3). The disease has three stages - catarrhal, paroxysmal and recovery. Cultivation method is used as a diagnostical proof. The causal therapy of pertussis is antibiotal therapy, especially macrolides. Pertussis is a disease preventable by vaccination.

In 1958, the routine vaccination was started in Czech Republic by whole cell vaccine. There was a significant decrease of incidence of pertussis after that. During the 90's the incidence has gently grown up again. Pertussis was an infant disease before (children up to 5 years of age). Nowadays we can see an age shift to adolescents and adults.

Pertussis is most dangerous for children younger than one year. The infection of the adults could be mild or even asymptomatic. The whole cell vaccine has often side effects, which are worse with raising age and frequency of sticks. In 2007 there was a new vaccination schedule introduced in Czech Republic which contains a new acellular vaccine. There are fewer side effects after vaccination with acellular vaccine, but the immunogenicity is lower during the years (the same is also with the whole cell vaccine). The acellular vaccine is suitable for immunization of adults, because there are minimal side effects. The age shift of pertussis incidence conducted to introduction of new revaccination programme for children in the age of 10 – 11 years by booster dose BOOSTRIX-POLIO. The question is if this change of the vaccination schedule is enough or if it's convenient to revaccinate the whole adult population, or if revaccinate just the professions of high risk (health workers, educationists). The cocoon strategy of vaccination of the whole families with small babies should be also considered.