

BOOSTERING OF MEASLES IMMUNITY AMONG HEALTHCARE WORKERS AFTER CONTACT WITH WILD MEASLES INFECTION

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The waning of vaccine-induced immunity against measles is not uncommon problem. Patients with measles hospitalized in our department created an opportunity to examine the booster reaction in vaccinated or naturally immune healthcare workers (HCW).

Material and methods: 15HCW (8 physicians, 7 nurses) aged 24-56 years were examined 1-3 days after the contact with measles and 10-12 weeks later. Specific anti-measles antibodies (IgG) were measured with ELISA Euroimmun test and interpreted as follows: <200mIU/ml-negative; 200-275–borderline, >275- positive). People with IgG>200mIU/ml are generally considered as immune.

Results: Significant (5-38 fold, median 16 fold) increase in specific antibodies was observed in 6 young HCW, aged 24-34, vaccinated in childhood (once or twice). Geometric mean concentration (GMC) increased from 295 to 4733mIU/ml. In 3 of them initial concentration of antibodies was <200mIU/ml and in the other 3 HCW >275mIU/ml. Unspecific catarrhal symptoms after measles incubation period were observed in one HCW (virus was not detected in the throat secretions, specific IgM were negative). In the other 9 HCW aged 24-56 (median 50.5), including 8 with natural immunity, concentrations of antibodies were similar in both tests (GMC 3291 and 3150mIU/ml respectively). The significant increase in the concentration of measles antibodies was not observed in any HCW with initial concentration >1200mIU/ml.

Conclusions: Contact with wild measles virus induces significant increase in the humoral immunity in people with initial concentrations of specific antibodies <1200mIU/ml. Commercial ELISA tests improperly assess measles immunity, which does exist even in people with specific antibody concentrations below 150mIU/ml.