Measles Serology and Response to Revaccination in Seronegative Young Adults in Mashhad, Iran

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ABSTRACT

In Iran, outbreaks of measles is still occurring especially among young adults. This study was conducted to evaluate the true immune status and the effect of revaccination. Our subjects included 172 students aged 15-19 years old, who were previously vaccinated during infancy period. The sera were tested for measles IgG and IgM antibodies. Following the test, seronegative subjects were revaccinated and tested for measles IgG antibodies. Before revaccination, 50 (29.1%) had no IgG antibodies (the titer of < 8), 9 (5.2%) had equivocal IgG antibodies (the titer of 8-12), and 113 (65.7%) had positive IgG antibodies (the titer of > 12).

Among seronegative subjects, 12 (24%) reached a postvaccination positive titer of IgG antibodies, and developed IgM antibodies. 36 (72%) reached a positive titer of IgG antibodies without developing IgM, and 4 percent remained negative IgG and IgM antibodies. Thus, overall 12 (6.7%), as judged by IgM antibodies, had true negative preimmune status (primary vaccine failure), and 36 (20.9%) had secondary vaccine failure. The highest percentages of cases showing primary and secondary failures had been vaccinated in years 1985-86 and 1982-83 respectively.

High primary and secondary failures in vaccination for measles, as shown in this study, suggest a need for re-vaccination program for high-risk individuals in Mashhad. (J Infect Dis Antimicrob Agents 2006;23:125-9.)

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