Measles Vaccine Failure in the Present Era

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The universal use of a two dose measles immunization program eliminated endemic measles in the U.S. However, measles is epidemic in much of Asia, Europe and Africa and this can lead to measles introductions and localized transmission in the U.S. We analyzed the cases of measles in California between 2000 and 2015, the history of secondary vaccine failure since it was described in 1972 and the effects of revaccination in persons whose measles antibody had waned. In California in 2014-2015, there were 124 cases of measles with 71% occurring in non-immunized persons. However, 20% had had ≥ 2 doses of a measles vaccine and are considered secondary vaccine failures. Of these secondary failure cases, the time interval (median) from their second dose was 16.7 years. Measles antibody titers after vaccination are lower than those following natural infection. At the present time in the U.S., the vast majority of the population is not experiencing boosts in their measles titers by exposure to patients with measles. Past studies have suggested that attempts to boost titers in primed individuals did not elicit prolonged titer rises. However, these booster attempts occurred relatively soon after primary immunization. In the present post-elimination era, waning vaccine induced immunity leads us to conclude that measles secondary vaccine failure will soon be an important problem in the U.S.; therefore, revaccination studies in middle aged individuals should be instituted.

Biography

James D. Cherry MD, MSC has been a pediatric infectious diseases specialist for 53 years. He is a Distinguished Research Professor at the David Geffen School of Medicine at University of California, Los Angeles. Professor Cherry has published 304 research papers, 108 editorials/commentaries and 282 book chapters. He has given 238 presentations at national and international conferences. The majority of these papers and talks have related to vaccines and vaccine preventable diseases. Professor Cherry is the senior editor of Feigin and Cherry's "Textbook of Pediatric Infectious Diseases" which is now in its 7th edition he was Chief of the Division of Pediatric Infectious Diseases for 27 years. He has received numerous awards, including the Distinguished Physician Award from the Pediatric Infectious Diseases Society in 2003 and the UCLA Medical Alumni Associations' Medical Science award in 2005.

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