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Booster immunization with aerosolized MMR vaccine and its potential use in elimination strategies for measles and rubella

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Measles was in the past one of the most important cause of infant mortality in developing countries. Mucosal immunization could be an important tool to achieve high immunization coverage in a shorter time and probably at a lower cost than the current injection, this alternative is particularly important, due to the current re-emergence of measles and the efforts to achieve the simultaneous elimination of measles and rubella in some countries of the world. Different randomized and controlled clinical trials have demonstrated the safety and immunogenicity of this procedure, with few exceptions, aerosolized vaccines of attenuated strains Edmonston Zagreb (EZ) of measles and the RA 27/3 of rubella, either in monovalent or combined presentation, have induced immune response equivalent or greater to that observed with injection in children at school age. Immune responses in infants have been inconsistent however some investigators have documented that increasing of exposure time to aerosolized EZ vaccine, induced an immune response equivalent to that observed in 9-month-old infants who received this vaccine by injection. In clinical trials performed in Mexico the immune response attributable to aerosol administration of the mumps strains Leningrad Zagreb and Jeryl Lynn have also been successful in school children and adults. Considering the successful experience for the booster immunization in school children with aerosolized vaccines containing viruses of measles and rubella, this procedure could be used in campaigns of second opportunity to achieve simultaneous elimination of measles and rubella.

Biography

Jose-Luis Diaz-Ortega is a Medical Doctor at National Autonomous University of Mexico. He has specializations in Epidemiology and Immunology. He serves as a Researcher and Professor at INSP and as Secretary of the National Commission for Documentation and Verification of Elimination of Measles, Rubella and Congenital Rubella Syndrome. He has served as consultant for Expanded Program on Immunization at WHO/PAHO headquarters, and some countries of the Americas and Southeast Asia, and participates in the Regional Commission for Certification of Eradication Final Poliomyelitis. He has published 46 scientific articles and 16 book chapters or manuals.

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