

Observational study on immune response to yellow fever and measles vaccines in 9 to 15-month old children. Is it necessary to wait 4 weeks between two live attenuated vaccines? R. Michela^{a,b,c,*}, F. Berger^{b,d}, J. Ravelonari^{a,e}, P. Dussart^d, M. Diaa^a, M. Nacher^f, S. Rogiere^d, D. Mouad^d, F.D. Sarra^d, O.M. Diopa^a, A.A. Salla^a, L. Barila^a,

abstract Background: The use of 2 live attenuated vaccines (LAV) is recommended to be simultaneous or after an interval of at least four weeks between injections. The primary objective of this study was to compare the humoral response to yellow fever (YF) and measles vaccines among children vaccinated against these two diseases, either simultaneously or separated by an interval of 7–28 days. Subjects and methods: A prospective, multicenter observational study was conducted among children aged 9–15 months. The primary endpoint was the occurrence of positive yellow fever antibodies after YF vaccine by estimating the titers of neutralizing antibodies from venous blood samples. Children vaccinated against YF 7–28 days after receiving the vaccine against measles (test group) were compared with children vaccinated the same day against these two diseases (referent group). Results: Analysis was performed on 284 children. Of them, fifty-four belonged to the test group. Measles serology was positive in 91.7% of children. Neutralizing antibodies against YF were detected in 90.7% of the test group and 92.9% of the referent group ($p = 0.6$). In addition, quantitative analysis of the immune response did not show a lower response to YF vaccination when it took place 1–28 days after measles vaccination. Discussion: In 1965, Petrilli showed a lower response to the smallpox vaccine when injected 4–20 days after measles vaccination. Since then, recommendations are to observe an interval of four weeks between LAV not injected on the same day. Other published studies failed to show a significant difference in the immune response to a LAV injected 1–28 days after another LAV. These results suggest that the usual recommendations for immunization with two LAV may not be correct. Conclusion: In low income countries, the current policy should be re-evaluated. This re-evaluation should also be applied to travelers to yellow fever endemic countries

Breastfeeding after maternal immunisation during pregnancy: Providing immunological protection to the newborn: A review Kirsten Maertens^{a,*}, Sara De Schutter^b, Tessa Braeckman^a, Lesley Baerts^b, Pierre Van Damme^a, Ingrid De Meester^b, Elke Leuridan^a

abstract Vaccination during pregnancy results in an augmentation of disease specific maternal antibodies. Immunoglobulin G (IgG) is mainly transferred through the placenta during the third trimester of pregnancy, while secretory Immunoglobulin A (sIgA) is passed through breast milk. At birth, newborns are partially protected against infectious diseases by these antibodies. This review aims to provide an overview of the effect of vaccination during pregnancy on the immunological protection of the newborn by the presence of disease specific sIgA antibodies in breast milk and their possible protective function against disease. Our search produced 11 relevant papers; 1 on pertussis, 7 on pneumococcus, 2 on influenza and 1 on meningococcus. All of the studies in this review that measured disease specific antibodies in breast milk ($n = 8$ papers), stressed the beneficial effect of maternal vaccination during pregnancy on the amount of disease specific sIgA in breast milk. Only a few studies demonstrated a potential protective effect, particularly with influenza vaccines. In an era where maternal vaccination is increasingly considered as a valuable strategy to protect both the mother and infant, further research is needed to assess the effect on breast milk sIgA and to understand the potentially beneficial effects to the infant.

Infant meningoencephalitis caused by yellow fever vaccine virus transmitted via breastmilk
Meningoencefalite causada pelo vírus vacinal da febre amarela transmitido pelo leite materno. Cristiane Traiber, Priscila Coelho-Amaral, Valéria Raymundo Fonteles Ritter, Annelise Winge

Abstract

Objective: To describe a case of infant meningoencephalitis that was probably caused by yellow fever vaccine virus transmitted via breastmilk. **Description:** A 38-day old patient was admitted to hospital on May 23, 2009, with fever. On May 25, 2009, convulsive crises began. Cerebrospinal fluid (CSF) test results were suggestive of meningoencephalitis. The mother had been given a dose of yellow fever vaccine and the baby

was on exclusive breastfeeding. The baby was discharged after the convulsive crises were controlled. Tests identified IgM antibodies specific for yellow fever in both serum and CSF. **Comments:** In 2009, the first case was confirmed of meningoencephalitis caused by the yellow fever vaccine virus transmitted via breastmilk. We describe a second case in which the vaccine virus was possibly the etiologic agent of meningoencephalitis. The Brazilian Ministry of Health now recommends delaying vaccination of nursing mothers until their children reach 6 months or providing them with guidance on alternative options to avoid the risk of transmission of the vaccine virus via breastmilk. *J Pediatr (Rio J)*. 2011;87(3):269-272: Adverse events, yellow fever vaccine, encephalitis, convulsions, breastfeeding.

Case report: probable transmission of vaccine strain of yellow fever virus to an infant via breast milk Susan Kuhn MD MSc, Loreto Twele-Montecinos MD, Judy MacDonald MD MCM, Patricia Webster RN, Barbara Law MD

The 17D yellow fever vaccine is a live-virus vaccine that has been in use since the 1940s. The incidence of encephalitis after yellow fever vaccination among young infants is much higher than among children older than nine months of age. Until recently, avoidance of vaccination by breastfeeding women who have received yellow fever vaccine had been based on theoretical grounds only. We report the probable transmission of vaccine strain of yellow fever virus from a mother to her infant through breastfeeding.