

Examination of hostile to infection antibodies of measles, rubella, mumps and toxoplasma gondii in spit of São Paulo schools and universities

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Abstract

Safe and effective vaccines are a well-established public health intervention, with a major impact on the decline in the prevalence of infectious diseases, but outbreaks are occurring frequently due to primary and secondary failures. Serological control of the vaccination status and protection of a population is essential but is based on invasive blood sampling, problematic for children and teenagers. Saliva can be an acceptable alternative IgG source for children and other protected groups, due to IgG exuded in crevicular fluid. We intended to detect the prevalence of specific IgG response for measles, mumps, rubella and *T. gondii* in saliva samples, to evaluate vaccine efficiency and toxoplasmosis. For sampling, we promoted an interactive exhibition on hygiene in public elementary schools to collect 249 saliva samples from 7 to 13 years old students from São Paulo, Brazil. We developed and validated an IgG capture assay by solid phase *S. aureus* protein A, with revealing of IgG specificity by the use of biotinylated recombinant measles, rubella, mumps and *T. gondii* tachyzoites extract. This SpA capture assay fixes the same amount of IgG in the well, avoiding the IgG content variation in saliva. We used 50 validated positive sera from the IMTSP biorepository and as negative controls 40 pools of 4 samples from 160 discarded sera from children 6 and 10 months old, after maternal IgG clearance and before vaccination, which were in routine pediatric analysis in ICr HCFMUSP. The assays had reproducibility greater than 98% and sensitivity and specificity > 95%, using sera. Saliva and sera of 47 university students were tested for paired comparison, without discordance.

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Biography

Barbara Fialho C Sampaio, is coordinator of clinical research and Postdoctoral Researcher in the Medical School of São Paulo University. Develop innovative diagnostic research using non-invasive techniques, which aims to create possibilities for expanding diagnosis of infectious diseases. She is focused

today is on the detection of measles, rubella and mumps in human saliva, such as had developed a new diagnostic technique to detect the vaccination status of children using saliva as an alternative biological fluid to blood.