Immunoglobulin A against oral streptococci in human colostrum

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Little information there is about contribution of breastfeeding to the understanding of the acquired immune protection against microbial invasion of the oral cavity, especially against bacteria associated with dental caries. This study involved 200 samples of colostrum that were analyzed for levels of immunoglobulins A, M and G by Elisa. The specificity of IgA against extracts of *Streptococcus mutans* and initial colonizers (*S. sanguinis, S. gordonii, S. mitis*) were analyzed by the western blot. The results showed that the mean concentration of IgA was 2850.2 (± 2567.2) mg/100ml followed by IgM and IgG (respectively 321.8 ± 90.3 and 88.3 ± 51.5), statistically different (P<0.005). 72.4% of the samples had IgA antibodies against species of streptococci, while 27.6% showed no detectable levels. The response of IgA was more frequently detected against *S. mitis* (83.7%) antigen followed by *S. mutans* (81.8%), *S. gordonii* (78.2%) and *S. sanguinis* (76.2%) and were not statistically different (P>0.05) between them. The glycosyltransferases 153 kDa-*S. gordonii* and 170 kDa-*S. sanguinis* were frequently detected in samples (83.7 and 85.7% respectively). Also, IgA against the antigen of 202 kDa of *S. mitis* (IgA1 protease) found 66% of samples. The three major antigens of virulence of *S. mutans* (glycosyltransferase, antigen I/II and glucan binding protein B) were detected respectively in 75, 75 and 58.2% of samples of colostrum. So, the breast milk presented significant levels of IgA specific against important virulence of antigens those oral streptococci, which can disrupt the installation and accumulation process of these microorganisms in the oral cavity.

Biography

Ruchele Dias Nogueira completed his Ph.D. in Microbiology and Immunology from University of Campinas, Piracicaba Dental School and postdoctoral studies from University of Sao Paulo, Ribeirao Preto Medical School and The Forsyth Institute, USA. She is the professor of University of Uberaba, in the Faculty of Medicine and Dentistry.

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