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Hepatitis A virus replication in salivary glands: A possible source of HAV transmission

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Hepatitis A is one of the most reported viral hepatitis worldwide and is recognized as an important public health disease, especially in developing countries. Hepatitis A virus (HAV) causes a self-limited infection and is transmitted through the faecal-oral route. However, there are still unsolved questions concerning its transmission and its replication in extrahepatic tissues. To further clarify some of these aspects, an experimental infection study in cynomolgus monkeys was conducted. It was demonstrated the viral antigen and an active replication of HAV in salivary glands of these animals, through detection of HAV intermediate replicative (minus strand RNA). These results established one of the mechanisms of the HAV presence in saliva and also suggest that the saliva is a potential source of HAV transmission. Corroborating these findings, our previous studies have demonstrated a higher frequency of HAV in saliva than in corresponding serum sample of children enrolled in hepatitis A outbreaks. The HAV persistency and viral load in saliva was similar of matched serum. Interestingly, in some cases viral genotypes in saliva specimens were found to be different from the genotypes detected in the corresponding serum specimens. This distribution of different genotypes of HAV in blood and saliva also reinforces the occurrence of extrahepatic independent replication. In summary, if HAV-RNA was consistently detected in saliva, and the anti-HAV titer is correlated with those of blood, the collection of saliva could also provide a simple, cheap and non-invasive means of detecting and monitoring hepatitis A.

Biography

Dr. Luciane Amado is a researcher at Laboratory of Technological Development in Virology at the Fiocruz and has been involved in viral hepatitis studies for over ten years. She has completed her Ph.D and postdoctoral research in Virology the Department of Virology from Instituto Oswaldo Cruz-Fiocruz, Brazil. Her current position is a researcher of the Department of Virology from Fiocruz, Brazil and professor of Virology in the Department of Biotechnology from Rio de Janeiro State University, Brazil. She has published more than 30 articles in reputed journals and serving as a reviewer of reputed scientific journals.

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