In our study, urinary free-cortisone excretion declined with PEM, as did its ratio of clearance. This result seems contrary to the findings of Machado et al. who described an increase in urinary cortisone excretion in fasting subjects. Nemaneg et al. found that cortisone excretion was decreased in PEM. They found that malnourished patients showed increased excretion of free and total cortisone per unit urinary cortisone excretion compared with control patients. Pertkowsky et al. found that total cortisone excretion always exceeded glomerular filtration, indicating tubular secretion. This increased markedly at higher serum concentrations. In another study, cortisone levels (plasma and urinary) were found to be normal or even normal after 1 week of cortisone administration.

Acceleration of incremental growth was seen in 22 of the 35 patients receiving cortisone who presented with failure to thrive. Water et al. found that improved growth was in the group characterized by increasing muscle mass on cortisone treatment. They believed that the role of cortisone as a muscle growth factor in infancy should be explored.

Finally, cortisone can be used in the treatment of malnutrition, especially kwashiorkor, 5 day cortisone supplementation is sufficient.

References

Stability of Saliva for Measuring HIV in the Tropics

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Summary
If HIV is to be detected among pregnant women in remote regions of the tropics, HIV antibodies need to remian stable until specimens arrive at the laboratory. Our objective was to assess the stability of HIV antibodies in saliva held for up to 7 months at ambient temperature in Yangon, Myanmar. We gathered 10 saliva specimens from each of 102 HIV-infected persons with the Omnial-Sal collection. Acknowledgements
This study was partially supported by the UCLA-Fogyart HIV/AIDS Training Program, the Ministry of Health, Myanmar and Saliva Diagnostic Systems Inc., Vancouver, Canada. The authors have no financial or other connections with Saliva Diagnostic Systems Inc., or the mentioned companies. Ms Eskes was formerly employed by Saliva Diagnostic Systems, and still owns stock in the company. Correspondence: Professor R. R. Frechels, Department of Epidemiology, UCLA, Los Angeles, CA 90095-1772, USA.

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During the past year, nearly 600,000 children were estimated to be newly infected with the human immunodeficiency virus (HIV) by their mothers, most of whom live in the tropical societies. When undetected, approximately one-third to one-quarter of HIV-infected women pass the virus on to their offspring either during pregnancy or birth, or via breastfeeding. Yet if HIV infection is detected in the potential mother, zidovudine (ZDV) therapy has been shown to reduce transmission by two-thirds when using a more aggressive treatment, or more recently by half when using a less costly modified treatment. Advising HIV-infected women to not breastfeed has also been effective at reducing HIV infection and mortality in the offspring. Because of the beneficial effects of breastfeeding, however, health professionals are reluctant to advise mothers not to breastfeed, although the advice usually changes when the mother is found to be HIV infected.

Most HIV testing requires drawing of blood, an organized laboratory with a refrigeration, equipment, and kits for enzyme immunoassay (EIA) or particle agglutination (PA) away from the presence of HIV antibodies. While such tests are typically done with blood, saliva has also been shown to be an effective and acceptable medium for HIV antibody testing. Being non-invasive, saliva specimens are easier to gather by midwives or other health workers who typically do not draw blood. A major issue in tropical societies, however, is the need for refrigeration, since pregnant women may live far from laboratories. To address this issue, our study was designed to assess, in a warm climate, whether lack of refrigeration during prolonged transportation negatively affects the reliability of HIV antibodies in saliva.

**Materials and Methods**

The study was done in Yangon, Myanmar, following a research protocol that was approved by the Human Subjects Protection committees of UCLA and the Myanmar Ministry of Health. After giving informed consent, 10 saliva specimens were collected from 10 HIV-infected women who had previously been tested at a government drug treatment centre. The saliva was collected with the Omni-Sal (Saliva Diagnostic Systems, Inc. (SDS)), Vancouver, Washington, USA), a device that consists of a cotton pad and a tube containing
antimicrobial and antiprotozoal agents as transport medium. For each subject, the pooled saliva was divided into 15 portions, and kept at ambient temperature for the duration of the study. Testing for HIV antibodies was done by the staff of the National Health Laboratory in Yangon using the GACELISA (Murex Diagnostics, Ltd, Dartford, England, U.K.), a highly sensitive ELISA specially designed for saliva. Using the GACELISA, laboratory personnel measure the optical density (OD) of the specimen and relate it to a cut-off value (COV) based on a control specimen. If the OD/COV ratio is at or greater than 1.0, the person is considered HIV reactive (or positive) and if less than 1.0, is considered HIV non-reactive (or negative). During 33 days, the 15 groups of 102 saliva specimens were tested for HIV antibodies every 2–3 days, for a total of 1530 assays. The daily ambient temperature in Yangon, during the study ranged from an average high of 32.1°C (89.7°F) to an average low of 24.2°C (75.5°F), while the relative humidity ranged from an average daily high of 93.8% to an average daily low of 74.8% per cent.

Results

On day 1 of the study, all of the 102 subjects were highly reactive to the GACELISA, with OD/COV ratios ranging from a low of 4.9% to a high of 9.30 and an average value of 6.79, well above the ratio of 1.00 used to separate the HIV infected from the non-infected (see Fig. 1). The same 102 specimens were again tested at days 3–33 (for a total of 15 test periods), remaining at ambient temperature throughout the study. As shown in Fig. 2, there was no observable reduction in the OD/COV ratio during the 33 day period, indicating that the antimicrobial and antiprotozoal transport medium in the Omni-Sal device can preserve HIV antibodies without refrigeration for up to a month before saliva specimens reach the laboratory for testing.

Discussion

Saliva is a useful medium for HIV antibody testing in developing countries, and is especially important for viral detection in pregnant women. Test findings with saliva agree very well with those from serum, whether using more expensive laboratory assays such as the GACELISA, has expensive laboratory tests such as the Detec HIV II assay (BioChemical Immuno-systems, Inc., Montreal, Canada), or rapid assays more appropriate for use in rural clinics such as the SalivaCare HIV-1/2, HIV-1, and Oracol collection device (Trinity Biotech, Dublin, Ireland), or ImmunoComb II HIV-1 and HIV-2 (Oxigenics Ltd, Israel) and Omnigent collection device (IDS, USA). The stability of HIV antibodies has also been reported by others, with whole-blood stored in tubes in Zaire for up to 6 weeks, with post-mortem whole blood stored at ambient temperature in Finland for 51–206 days with saliva stored in Germany at ambient temperature for up to 20 days and 1°C (30°F) for up to 5 days.
township hospital, where HIV testing would be done. Not having to rely on refrigeration during the transportation is important in such settings. Our study of saliva from 102 HDV-positive subjects shows that with the Omnil-Sal test medium, HIV antibodies are stable for up to 33 days, providing sufficient transportation time to enable HIV testing of pregnant women in remote areas.

References

Surrogate Markers of Disease Progression in HIV-infected Children in Rio de Janeiro, Brazil

by M.B. Ortigao de Sampaio, T.F. Abreu, M. I. Linsaeres-de-Carvalho, A. Pome de Leon, and L. R. R. Castilho-Brancato

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Summary
In order to test the predictive value of immune complex-dissociated p24 antigenemia (IC-Dp24a), p2 microglobulin (p2-M), and neopterin as markers of disease progression, 53 HIV-1 infected children were studied.

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