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New method for HIV testing holds promise for developing world

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A new technique that detects the HIV virus early and monitors its development without requiring refrigeration may make AIDS testing more accessible in sub-Saharan Africa.

According to UNAIDS, sub-Saharan Africa accounts for almost a third of all new HIV infections and AIDS-related deaths globally. Yet there may be many people who do not get tested due to the high cost of treatment and minimal access to health care.

Duke Physician John Crump and a team of researchers recently completed a 10-month experiment at two remote sites in Tanzania. They examined Tanzanian infants born to HIV-infected parents and people with known HIV infections who needed monitoring of their viral loads. Viral load is a measurement used to diagnose HIV infection or determine the severity of HIV infection.

In the largest field study of its kind, researchers compared viral load measurements by using the current standard of frozen plasma and the alternative method of dried blood spots (DBS). The samples were measured at a central lab at the Kilimanjaro Christian Medical Centre in Moshi, some 250 and 350 kilometers away from the two study sites.

The Duke study found a strong correlation between viral load values in plasma and DBS, making the two testing approaches comparable. This finding could lay the foundation for a new way of testing for and monitoring patients with HIV in the future, according to Dr. John

Bartlett, Duke Global Health Institute Associate Director for Research.

The sooner infants are diagnosed with HIV, the sooner they can receive life-prolonging medications to treat the disease. The infection cannot be detected in newborns using the typical HIV antibody test, and must be detected with other techniques, including viral load testing.

Viral load testing is also the optimal way for monitoring HIV infection in patients with known infections, especially for those receiving treatment.

But few labs in Tanzania perform the viral load procedure, and blood samples must be transported long distances to specialized medical facilities for testing. Plasma requires continuous cold storage during shipment, which can be challenging or impossible in resource-limited settings. This may prevent people from getting tested or result in inaccurate tests.

"Dried blood spots offer the advantage of not requiring cold storage," says Bartlett, who also points out that this method may result in lower total health care costs. "Before using it for care and treatment programs, it will need further evaluation. But, this is the largest field study of DBS's done to date, and the results appear promising."

The study findings were presented on Monday, July 20th in Cape Town, South Africa at the fifth HIV Pathogenesis, Treatment and Prevention conference.

Source: Duke University (news : web)