A new study involving mice from South Africa has revealed that a disproportionately high number of their viral reservoirs are infected with HIV. The viral insertion went into a hidden state, not triggering disease, and presenting new opportunities to develop antiretroviral therapy.

These findings come from a joint study by the University of Cape Town School of Medicine and the Department of Research in South Africa (Cape) and the University of North Carolina at Chapel Hill. The study was published this week in the Journal of Science, and features as the featured article of the issue.

While antiretroviral treatment, HIV becomes undetectable in the blood, but HIV remains dormant in the body (known as the viral reservoir) where treatment cannot reach. This is true even in individuals who are HIV negative (known as latent viremia) which treatment cannot reach. This is true even in individuals who are HIV negative (known as latent viremia).

People living with HIV have to take antiretroviral treatment to prevent the reactivation of HIV strains in the hidden viral reservoir, but even then, the virus may hide in their blood if antiretroviral treatment is stopped.

Until now, this viral reservoir was believed to be too numerous to study, many years starting from the onset of viral infection.

The study investigated nine women on antiretroviral treatment and nine women on antiretroviral treatment and in the hidden viral reservoir, and it found that all of the viral strains in the reservoir could be detected and circulating in the blood at the time of antiretroviral treatment initiation. This is indicating that the opportunity to develop new approaches to the treatment of viral infections could be discussed adding additional interactions at the time of antiretroviral treatment initiation.

The viral reservoir is the biggest bacterial killer.

"The path to a cure for HIV is long and complicated," said Professor Sam Salama, the senior author of the study and co-founder of the Capital of 002 study. "The goal of our study is to understand the properties of the reservoir and to develop new approaches to treat it effectively, including additional interactions at the time of antiretroviral treatment initiation."

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"Our work suggests that we could understand the reservoir-forming process and develop new approaches to treat it effectively, including additional interactions at the time of antiretroviral treatment initiation.

The study has implications for the development of new approaches to treat HIV and could lead to the identification of new targets for vaccine development."

"We are encouraged by these findings and believe that this study will have a significant impact on the development of new approaches to treat HIV in the future."

Dr Melina Rose-Aham, a UCT researcher, said the findings indicate that antiretroviral treatment is necessary for HIV eradication. "This study highlights the need for continued efforts to develop new approaches to treat HIV, including additional interactions at the time of antiretroviral treatment initiation.

The UNAIDS estimated that last year more than 35 million people were living with HIV, 22 million people on life-long antiretroviral treatment and 5.5 million people died of HIV-related diseases. There is no cure for HIV infection."