Zika infections

Researchers in Singapore have joined the war against Zika to create better ways to diagnose, understand and treat the disease and to stop its spread. Carolyn Khew highlights some of their efforts.

Zika, a mosquito-borne virus, was first discovered in Uganda in 1947. Despite this, it wasn't until 2015 that the virus re-emerged in the Western hemisphere. This re-emergence was linked to the Zika outbreak in Brazil, which led to the discovery of Guillain-Barré syndrome and microcephaly in newborns. Since then, Zika has spread to many countries, including the United States, and has been linked to an increase in births with neurological defects.

Fighting Zika through research

Scientists at the Agency for Science, Technology, and Research (A*Star) are developing diagnostic tests and vaccines to combat this disease. They have developed a blood test that can detect Zika virus antibodies, which can indicate past exposure to the virus. This test is being used to monitor populations and assess the effectiveness of control measures.

Dr. David Wong, a senior scientist at the National University of Singapore's School of Medicine, has been working on developing a vaccine for Zika. His team has developed a vaccine that is composed of a harmless version of the Zika virus, which is designed to stimulate the immune system to produce antibodies against the virus.

The vaccine is currently being tested in clinical trials, and preliminary results have shown promise. If the vaccine is proven to be effective, it could provide a crucial tool in the fight against Zika. It is expected to be available within the next few years, providing a significant boost to efforts to control this disease.

Dr. Wong's team is also working on developing a diagnostic test for Zika virus. The test uses a new technology called anucleate cell culture, which allows for rapid detection of the virus. This test is being used in hospitals and clinics to diagnose cases of Zika and to track the spread of the disease.

The team is also working on developing a test for the presence of Zika antibodies in the blood. This test is currently being used in clinical trials and is expected to be available within the next few years. The test is being used to monitor individuals who have been exposed to the virus, and it can help to identify cases of asymptomatic infection.

In addition to developing vaccines and tests, the team is also studying the epidemiology of Zika virus transmission. This includes studying the factors that influence the spread of the virus, such as climate and mosquito behavior. By understanding these factors, they can better target control efforts and develop more effective strategies to prevent the spread of the disease.

Overall, the efforts of researchers in Singapore and around the world are making significant progress in the fight against Zika. With continued research and development, it is hoped that effective vaccines and tests will be available in the near future, providing a crucial tool in the battle against this disease.