

PHI Awards Research Grant to University of Arkansas Team

Post-Polio Health International (PHI) awarded a \$25,000 research grant to a team from the University of Arkansas for Medical Sciences (UAMS), Little Rock. The researchers propose to determine whether there is a unique signature, or disease biomarker, in the immune system of individuals with post-polio syndrome (PPS) that would enable a more definitive diagnosis of PPS.

PPS is a slowly progressive neurodegenerative disease that occurs many years later in individuals previously affected by paralytic poliomyelitis due to the poliovirus infection. The causes of PPS are unknown but it is characterized primarily by new muscle weakness that negatively affects the quality of life of survivors.

Biomarkers are biological measures found associated with specific diseases. They are useful because they can assist in disease diagnosis or provide a means of monitoring disease development and progression.

The researchers at UAMS recently detected the increased presence of a distinct immune cell population in the blood of individuals with PPS but not healthy individuals, although the number of donors examined was small. The detected cells represent a recently described subtype of T cells, known as regulatory T cells (Tregs).

The research award will fund a small pilot study that will determine whether development of PPS is associated with increased numbers of Tregs, and whether the Tregs found in individuals with PPS have unusual properties as compared with those in healthy individuals.

"We are very grateful to PHI for their support of this research. Although the research is in its very early stages and

our initial results need to be rigorously tested in a much larger group of individuals with PPS, a biomarker for PPS that can be potentially measured in an individual's blood should enable a more rapid and more definitive diagnosis of this debilitating disease," said Principal Investigator Dr. Rahnuma Wahid, Postdoctoral Research Assistant, Microbiology and Immunology Department, at UAMS.

"A definitive diagnosis of PPS is difficult because it is based on past history, which may be lost or incomplete, or dependent on recall. The diagnosis is complex and unreliable because many symptoms of PPS overlap those of other diseases including osteoarthritis, fibromyalgia, hypothyroidism and a number of neurological conditions. Available treatments are limited, so finding a definitive test for PPS would not only help with a diagnosis but would also help develop potentially more effective therapies," said Joan L. Headley, Executive Director of Post-Polio Health International. ▲

"Although the research is in its very early stages ... a biomarker for post-polio syndrome that can be potentially measured in an individual's blood should enable a more rapid and more definitive diagnosis," states Rahnuma Wahid, PhD. Marie Chow, PhD, Professor, Departments of Microbiology and Immunology, and Pathology, and Katalin Pocsine, MD, Assistant Professor of Neurology, are part of the research team.