Immune Reconstitution Inflammatory Syndrome (IRIS)

WHAT IS IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME?

Some people who start antiretroviral therapy (ART) get health problems even though their HIV infection comes under control. An infection that they previously had might return. In other cases, they may develop a new disease. This is linked to improvements in the immune system. The problems usually occur in the first two months after starting antiretroviral medications (ARVs). This condition is called **Immune Reconstitution Inflammatory Syndrome (IRIS)**. It occurs in about 20% of people starting ART.

HOW WAS IRIS IDENTIFIED?

Several people developed cytomegalovirus (CMV) disease ***after*** they started HIV treatment. In some cases, these people had not been diagnosed with CMV before they started HIV treatment.

Doctors concluded that these people were infected with CMV before they started HIV treatment. However, their immune systems had been too weak to react to the CMV. When they started ART, their immune systems got stronger and then responded to CMV infection. That's when they developed what looked like a new case of CMV disease.

There were similar cases in other people who had different infections. It was called immune recovery syndrome at first. Some people developed fever and swollen lymph nodes while others had inflammation in various parts of their bodies. Nearly all started ART with very low CD4 cell counts (less than 100 copies/mL). These problems showed up ***after*** they had a large increase in their CD4 counts and a large decrease in viral load.

BAD NEWS – OR GOOD?

No one wants to develop inflammation or an infection. However, most cases of IRIS go away with continued HIV treatment.

Probably more important is the fact that the immune system is getting stronger. It also shows that the immune system is responding to specific germs. Before HIV treatment, there might have been no response to these germs because the immune system was too weak.

Even in patients who develop IRIS, **ART should be continued**.

WHAT PROBLEMS CAN OCCUR?

IRIS has been linked to several types of opportunistic infections (OIs) or inflammation including:

Cytomegalovirus: CMV IRIS can affect different organs, including the brain, eyes, and colon.

Cognitive (memory and thinking) problems: Some people develop what is now called minor cognitive motor disorder when whey first start ART.

Cryptococcal Meningitis: The first symptoms of cryptococcal meningitis are headaches and fever.

Hepatitis B virus (HBV) and Hepatitis C virus (HCV): Some of these were cases of HBV and HCV that had not previously been diagnosed.

Herpes Zoster (Shingles) and **Herpes Simplex virus (HSV)** outbreaks: Read more about Shingles and HSV.

Molluscum contagiosum: Molluscum is a viral skin infection

Mycobacterium Avium Complex (MAC): MAC is caused by a bacteria related to tuberculosis. MAC IRIS during immune recovery may show unusual symptoms, including fever, fatigue, and night sweats.

Progressive multifocal leucoencephalopathy (PML): PML is brain infection cause by a virus. PML IRIS can cause a serious worsening of PML symptoms.

Tuberculosis (TB): TB is a lung infection caused by bacteria. TB IRIS is common in many developing countries.

HOW IS IRIS TREATED?

There is no specific treatment for IRIS. Continued HIV treatment strengthens the immune system. This normally takes care of any infections that emerge.

IRIS can be treated by using a steroid drug such as prednisone. This can lessen the inflammation while still allowing the immune

system to recover.

THE BOTTOM LINE

Immune reconstitution inflammatory syndrome (IRIS) can occur when people with very weak immune systems start HIV treatment. If their immune system recovers quickly (higher CD4 cell counts and lower viral load), it might have a strong response to some germs that were already in the body. This usually shows up as some type of inflammation.

Several different opportunistic infections (OIs) have been linked to immune restoration.

IRIS is a sign of improving immune health. Normally it is not treated. Continuing HIV therapy takes care of any problems. In rare cases, the immune system can be suppressed with steroids to ease inflammation.

MORE INFORMATION

The BodyPro: Immune Reconstitution Syndrome

TheWellProject: Immune Reconstitution

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