High Number of Pulmonary Hypertension Cases in Naval HIV Cohort Study

November 4, 2008 By Tim Horn

The incidence of pulmonary hypertension—high blood pressure in the arteries that supply the lungs—is significantly higher in HIV-positive people compared with the general population, according to a National Naval Medical Center cohort study reported at the 2008 joint meeting of the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) and the Infectious Disease Society of America (IDSA) last week in Washington, DC. Of concern was the finding that many of the HIV-positive individuals diagnosed with this potentially debilitating condition were young, on antiretroviral (ARV) therapy and otherwise free of HIV-related health problems.

Pulmonary hypertension occurs when blood vessels in the lungs become narrowed or blocked, making it harder for blood to flow through the lungs. This causes the pressure within the pulmonary arteries to build. As the pressure continues to build, it can damage the heart—and sometimes cause it to fail completely.

Often, the exact cause of primary pulmonary hypertension can't be determined. There is also secondary pulmonary hypertension, caused by other problems, such as blood clots in the lungs, emphysema and other pulmonary diseases, sleep apnea, illicit drug use and congestive heart failure.

HIV infection has also been listed as a potential risk factor, although the exact role HIV plays in the development of pulmonary hypertension hasn't been determined. Similarly, the impact of (ARV) therapy on pulmonary hypertension has not been well studied.

David K. Byers, MD, of the National Naval Medical Center in Bethesda, Maryland, and his colleagues conducted a cohort evaluation to determine the incidence of pulmonary hypertension in asymptomatic HIV-positive patients receiving ARV therapy. All patients enrolled were between 18 and 50 years of age, with no known intravenous drug use, and free of various heart ailments that can cause secondary pulmonary hypertension.

Ninety-one patients were evaluated, five (5.5 percent) of whom were diagnosed with pulmonary hypertension—a rate that is significantly higher than that seen in the general population. In the United States, fewer than one in 1 million people are diagnosed with primary pulmonary hypertension every year, for a total of 300 new cases documented annually.

The five cases of pulmonary hypertension were generally asymptomatic—symptoms such as

shortness of breath, fatigue, fainting, chest pain and racing pulse were not reported—and tended to be mild in severity.

New cases of pulmonary hypertension documented in the study primarily involved young men who were responding well to ARV therapy. The average age at the time of diagnosis in the study was 36 years, the average viral load was 25 copies, and the average CD4 count was 623 cells. In fact, pulmonary hypertension cases were somewhat younger and generally had lower viral loads and higher CD4 counts than those in the study without pulmonary hypertension. In turn, the researchers were unable to find any direct associations between particular HIV-related issues and the risk of pulmonary hypertension.

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