Some HIV Drugs May Cause Pulmonary Hypertension

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Certain HIV drugs may cause dysfunction in the cells that line the blood vessels leading to the lungs, thus increasing blood pressure and potentially increasing the risk for heart disease, according to a study published in the February 13 issue of *The American Journal of Pathology* and reported by ScienceDaily.

Pulmonary hypertension is different from the kind of hypertension that is measured by the blood pressure cuffs doctors use on your arm. Narrowing and blockages in the blood vessels leading to the lungs are its primary cause. It restricts blood flow not only to the lungs, but also to the right side of the heart. Over time, the condition can weaken the heart muscles and ultimately lead to heart failure. There have been concerns that antiretroviral (ARV) therapy could increase certain factors associated with an increased risk for heart disease, including changes to the health of blood vessels.

To examine the impact of eight ARV drugs on pulmonary blood vessel function, Changyi Chen, MD, PhD, from Baylor College of Medicine in Houston and his colleagues measured the degree of blood vessel inflammation caused by a variety of HIV drugs in pig and human arterial cells. Drugs were tested both individually and in combination.

Chen found that five drugs decreased the ability of blood vessels to open and close. Two—ritonavir (found in Norvir and Kaletra) and indinavir (Crixivan)—are protease inhibitors. The other three—abacavir (found in Ziagen, Epzicom and Trizivir), lamivudine (found in Epivir, Epzicom, Combivir and Trizivir) and zidovudine (found in Retrovir, Combivir and Trizivir)—are nucleoside analogue reverse transcriptase inhibitors (NRTIs).

The finding by Chen and his colleagues doesn't conclusively prove that these drugs cause pulmonary hypertension, but it does point to the increased possibility that they do and it suggests that further research should be carried out to prove or dispute their results.

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