Benefits of Antiretroviral Resistance Testing May Be Limited

A review of randomized controlled trials found that the main apparent benefit of such testing occurred among those with virologic failure.

January 22, 2019 By Benjamin Ryan

People with HIV may not reap major benefits from undergoing resistance testing when switching to a new antiretroviral (ARV) regimen. A review of randomized controlled trials published more than 12 years ago found that resistance testing's main apparent benefit was among those with virologic failure (a viral rebound or lack of attainment of full viral suppression on a previous ARV regimen), who experienced greater suppression of HIV following resistance testing conducted to guide the choice of a new regimen.

Publishing their findings in the Cochrane Database of Systemic Reviews, researchers searched for studies published from 1989 through January 2018 that compared using resistance testing before starting or switching to an ARV regimen with not using such testing. They came up with 11 randomized controlled trials published between 1999 and 2006 that included 2,531 participants, all of whom were switching ARV regimens as opposed to starting HIV treatment for the first time.

Study follow-up time ranged between 12 and 150 weeks. The studies were conducted in Europe, the United States or South America. Seven of them used genotypic testing, two used phenotypic testing and two used both phenotypic and genotypic testing. One of the studies was funded by a manufacturer of resistance tests.

Resistance testing made little or no difference in the risk of death, as it was associated with an 11 percent reduced risk of this outcome based on moderate-certainty evidence, a difference that was not statistically significant.

Testing may have slightly reduced the number of people with virologic failure, as it was associated with a statistically significant 30 percent reduced risk of this outcome based on low-certainty evidence.

Testing probably made little or no difference in CD4 count, with a statistically significant decline of 1 cell based on moderate-certainty evidence. Nor did testing likely affect the likelihood of progression to AIDS, with a non–statistically significant reduced risk of 36 percent of such an outcome, based on moderate-certainty risk.

Testing made little or no difference in adverse health events, as it was associated with a non–statistically significant 11 percent decline in the risk of such outcomes based on low-certainty evidence.

Testing probably reduced viral load, with a statistically significant average decline of 0.23 log10 (41 percent) based on low-certainty evidence.

None of the studies reported on the development of new opportunistic infections or quality of life.

To read the Infectious Disease Advisor article, click here.

To read the study, click here.

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