

Genetic Testing May Avoid Abacavir Hypersensitivity Reaction

by John S. James

Summary: An experimental genetic test may almost eliminate the hypersensitivity reaction, which occurs in about 5% of patients starting abacavir, by identifying those at risk in advance.

A study in Australia showed that a genetic test was very effective in predicting which patient would react badly to abacavir (Ziagen) [1,2]. None of 148 patients who tested negative for HLA-B*5701 developed the hypersensitivity reaction; three patients who tested positive took the drug anyway, and all of them did have the reaction. The specialized research test used is expensive and has a long turnaround time, but better testing is being developed [3]. The manufacturer of abacavir, GlaxoSmithKline, is conducting a large trial to establish the role of hypersensitivity testing in HIV medical care [4].

The hypersensitivity reaction occurs in about 5% of patients starting abacavir overall, with people of African descent reporting it less frequently. This may be due to the different frequency of the gene in various populations. If the reaction occurs it can be managed with good medical care, but it can be life-threatening if not handled properly.

For a less technical description of the recently published study, see [5].

Also, a Canadian and U.S. group is presenting a similar study [6] as a late breaker at ICAAC (September 27-30, 2006, in San Francisco), Saturday at 8:30 a.m.

Clinical Study Recruiting Now

An observational study (it does not give any drugs) is recruiting 40 White and 40 African American patients 18 and older who have had a suspected hypersensitivity reaction to abacavir. They will be compared to 200 of each race who have taken abacavir for at least 12 weeks without hypersensitivity. Most needed are African Americans who have had a suspected reaction, since persons of African descent have it less often. In the U.S. there are study centers in more than half of the states, and a list with phone numbers is posted at <http://clinicaltrials.gov/show/NCT00373945>

Comment

The Australian experience is an early example of a strategy that will become much more important in the future -- genetic testing to help doctors predict which patients will do well or poorly on a particular drug. Such information will significantly improve both medical treatment with existing drugs, and medical research to find new ones.

References

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3. Martin AM, Krueger R, Almeida CA, Nolan D, Phillips E, and Mallal S. A sensitive and rapid alternative to HLA typing as a genetic screening test for abacavir hypersensitivity syndrome. *Pharmacogenet Genomic*. May 2006; volume 16, pages 353-357.

4. The Predict-1 study is recruiting outside the U.S.; see <http://www.clinicaltrials.gov/ct/show/NCT00340080>
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