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## Clinical utility assessment of cell-free DNA screening in a community setting

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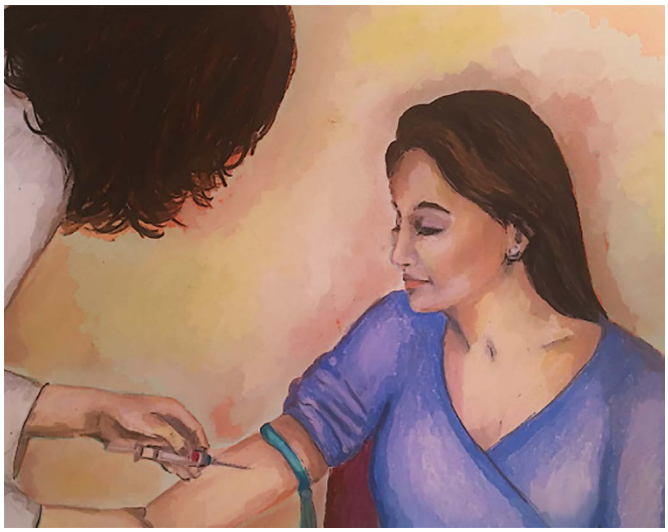

Rachel Howard

A program to assess the clinical utility of cell-free DNA (cfDNA) screening revealed that the test was readily accepted by pregnant women in the screening population, but concerns remain about false-positive results and test failures. The DNAFirst statewide program, conducted in Rhode Island, offered cfDNA testing as a routine prenatal screen. The test was offered free, with funding provided by test sponsor Natera, in San Carlos, California, to remove cost concerns from a woman's decision-making process. Investigators collected data regarding patient uptake, cfDNA failures, false-positive results, and patients' responses to the testing process. A subset of women completed a survey designed to document their experiences, knowledge, and decision-making process. Obstetrical providers reported their experience with incorporating DNAFirst into routine practice. During the 11-month test window, 2,691 women enrolled. Testing identified potential trisomies (chromosomes 21, 18, and 13) in 16 patients. Of these, 12 were confirmed positive and four were false positives, which was consistent with rates found in controlled clinical validity studies. The test failure rate was 5.6%, which is at the lower end of the published rate but still high. Repeat testing revealed no cases of aneuploidy among this retested group. Both patients and providers were comfortable with the test and its incorporation into the clinical routine, but providers expressed concerns about the failure rate, turnaround time, and eventual cost of testing. Patients reported sufficient time to talk with their provider (95%), having their questions answered (96%), and understanding that the test was optional (99%). While most patients understood that the test identified Down syndrome, some (15%) thought it identified all genetic problems and 13% thought a negative result ruled out Down syndrome. Nearly all women reported that they would recommend testing to friends and would choose to undergo the test again in their next pregnancy. *—Karyn Hede, News Editor*

## A call for greater awareness of inherited cardiomyopathy in African Americans

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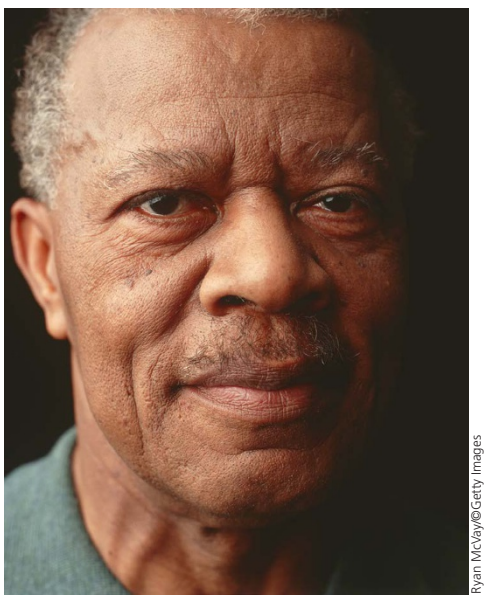
An inherited cardiomyopathy that is relatively common among individuals of West African descent may be treatable, and cardiologists should consider testing for it in older patients with heart disease, according to a new review. The genetic variant in the transthyretin (TTR) gene (a substitution of isoleucine for valine at position 122) leads to gradual deposition of amyloid fibrils in the heart in older carriers, although there appears to be significant variation in the severity of disease. Autopsy studies revealed that virtually all hearts containing amyloid fibrils tested positive for this gene variant. Researchers estimate that about 3.5% of African Americans carry the variant. A prospective case–control study conducted at a Veterans Affairs Hospital found that the variant allele was common among elderly African Americans referred for cardiac evaluation. Another study in elderly heart patients, all of whom received genetic testing for cardiac amyloidosis, revealed that among congestive heart failure patients of African descent, 10% over age 60 carried the allele. The authors propose that, when presented with an elderly adult of known African descent with symptoms and signs of diastolic dysfunction confirmed by echocardiography, clinicians should consider the possibility of cardiac amyloidosis and order a readily available genetic test. No effective treatment for the disorder is yet available. However, several clinical trials are under way of treatments that may interfere with the deposition of amyloid fibrils by disrupting their formation or dissolving them. Given the availability of a genetic test and the emergent potential for therapy, the authors call for greater awareness among cardiologists of this autosomal dominant, age-dependent cardiac disease. *—Karyn Hede, News Editor*



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