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Weak DNA evidence could undermine justice, experts say

Defense attorneys fear wrongful convictions, confusion from juries when statistical probabilities of 'match' aren't rare

By [Steve Mills](#), Chicago Tribune reporter

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When Cook County prosecutors brought Cleveland Barrett to trial earlier this year for the predatory criminal sexual assault of a 9-year-old girl, they presented the jury hearing the case testimony from the alleged victim plus the kind of evidence that long has won convictions with its scientific certainty: DNA.

Indeed, Assistant State's Attorneys Krista Peterson and Jane Sack told jurors in closing arguments that the DNA obtained from the victim after the alleged incident in July 2010 was a match to Barrett's genetic profile and evidence that corroborated the victim's trial testimony.

"Who is the major profile in the DNA that's found?" Sack asked the jury, according to a transcript from the trial. "The defendant."

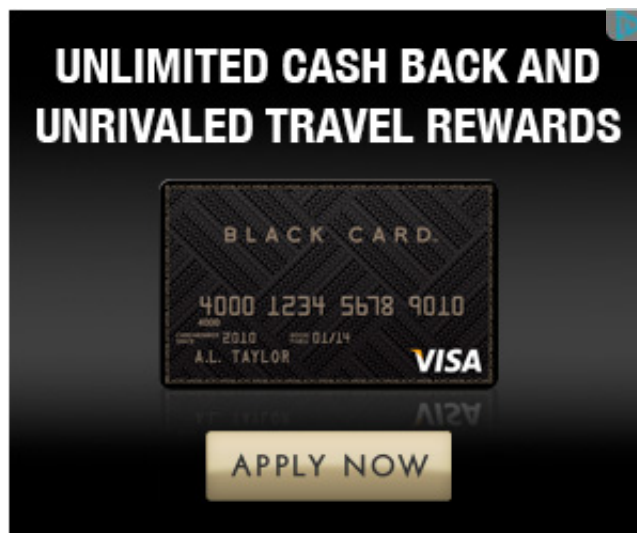
But this DNA was different. It was not from semen, as is often the case in rapes; instead it came from male cells found on the girl's lips. What's more, the uniqueness of the genetic link between the DNA and Barrett was not of the 1-in-several-billion sort that crime lab analysts often testify to in trials with DNA evidence. Instead, when Illinois State Police crime lab analyst Lisa Fallara explained the statistical probabilities, she testified the genetic profile from the cells matched 1 in 4 African-American males, 1 in 8 Hispanic males and 1 in 9 Caucasian males.

Fact is, the DNA profile from the cells on the victim's lips could have matched hundreds of thousands of men in the Chicago region.

The advent of forensic DNA analysis offered a precision that older and cruder — and, now, mostly discarded — forensic disciplines did not. But experts say cases such as Barrett's, which are emerging in Cook County and in some other jurisdictions across the nation, mark a troubling return to a kind of forensic science that allows imprecision to cloud the evidence as well as a judge's or a jury's ability to weigh it properly.

The broad and almost meaningless statistical probabilities offered at Barrett's mid-April trial were just the kind of

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probabilities offered for years when crime lab analysts testified about serology, the more crude forensic discipline that gave way to the more scientifically exacting DNA.

Observers of the justice system worry that this use of DNA, which holds a powerful allure for jurors, will lead to wrongful convictions.

"Juries are conditioned to think DNA is incredibly powerful and dispositive. But these cases are very different," said William Thompson, a professor in the Department of Criminology and the School of Law at the University of California at Irvine and an expert on DNA. "Juries can give this kind of evidence too much weight."

Edward Blake, one of the nation's leading DNA scientists who has worked on cases for both prosecutors and defense lawyers, was more blunt. He said that it is "preposterous" to use DNA evidence when it cannot be more precise and that judges should not allow it into courtrooms.

"It has almost no value at all as evidence," Blake said.

In the end, after spending more than a year in jail, Barrett was acquitted and set free. But other cases with similar DNA evidence are working their way through the courts, and attorneys at the Cook County public defender's office fear they will not be handled with skepticism.

Barrett's case, in fact, involved considerable back-and-forth testimony over the meaning of the DNA. At one point, Fallara testified that she could not determine whether the cells on the victim's lips came from saliva or skin or even a hair. She did acknowledge, though, that Barrett's DNA matched the DNA recovered from the victim's lips at only one of 11 locations on a chromosome – meaning she could not get enough information at the other 10 locations, a distinction that was drawn out by Assistant Public Defender Scott Kozicki in cross-examination.

Fallara even acknowledged in testimony that under a different reading of the data, Barrett could have been excluded as the source of the DNA recovered on the victim's lips.

"It's new. It's highly unusual. And it's very concerning," said Gregory O'Reilly, chief of the forensic science division for the Cook County public defender's office. "There's a terrific power in the phrase 'DNA match.' And there's a great risk that the jury will put great significance on this when it's not significant at all."

Crime lab officials and Cook County prosecutors say this kind of DNA evidence is being used more frequently in court as science and technology advance and police become more sophisticated and skilled in their efforts to find and recover DNA in smaller quantities, as well as in places that they were not able to in the past. One byproduct of those advances is that the genetic profiles they obtain are incomplete. That leads to statistical probabilities that are incredibly common, like those in the Barrett case, which critics say are misleading.

"When science advances and you're getting profiles that aren't complete, you're going to wind up with numbers that are not as probative as the numbers you're getting with full profiles," Fabio Valentini, chief of the state's attorney's criminal prosecutions bureau, said in an interview.

Cecilia Doyle, chief of the biochemistry section of the state police crime lab in Chicago, declined to discuss the Barrett case. But she said in an email that lab analysts, who are available to both prosecutors and defense attorneys, merely process the evidence and do not "decide whether the results or statistics are meaningful to the case. ... The laboratory analyst's job is to analyze the evidence and report the findings, whatever they may be.

"Sometimes the analysis only reveals limited information, but that could still be significant and useful in a case."

Valentini said trial prosecutors are trained to be aggressive advocates but not to go beyond what the evidence introduced shows. The office stood by Sack's statements in closing, with office spokeswoman Sally Daly saying they were "proper and consistent with the evidence presented during trial. That is not only our position, but obviously the position of the trial judge as well, as he overruled objections made at the time."

Valentini said prosecutors saw limited uses for DNA such as that in the Barrett case. He said they would not use it as the basis to bring charges against a suspect or to mount a prosecution without other significant evidence. They would use it, he said, to corroborate other evidence, as they did with the testimony of Barrett's alleged victim.

"It's really like any other evidence you have. It's part of the picture," Valentini said. "Is it sufficiently probative for us to identify a single suspect? No, it's not. But is it probative enough to corroborate other evidence we have? That's case by case. But, generally, the answer is yes."

But Sack, in her closing argument, also used a word defense attorneys say goes too far and prejudices defendants: "match."

O'Reilly said trial court judges need to be vigilant in weighing whether a jury should hear such DNA evidence or whether it should be kept out.

"It doesn't only run the risk of convicting an innocent person or letting bad science into the courtroom, but you're going to undermine the very power that's behind DNA in the public consciousness," O'Reilly said. "The meaning of 'match' will become so trivialized that you'll mix powerful science with junk science, powerful evidence with junk evidence. It's going to lead to a lot of confusion. Because this is DNA."

Barrett, 47, said he was just weeks from getting a degree as a chef when he was arrested and his life turned upside down. He said he still cannot believe that prosecutors used the DNA against him.

"The way they done me was really unfair," he said in a Rogers Park apartment filled with books. "That DNA didn't match me, and they knew it."

smmills@tribune.com

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