MEET BENNET OMALU, MD: THE PHYSICIAN LEADER WHOSE RESEARCH INSPIRED THE MOVIE CONCUSSION

In this article...
The pathologist who discovered chronic traumatic encephalopathy in professional football players didn’t set out to attack America’s favorite sport. He didn’t even know much about the game.

MORE THAN 111 MILLION VIEWERS WATCHED Super Bowl 50 in February, as the Denver Broncos took on the Carolina Panthers.

Bennet Omalu didn’t.

Omalu, MD, MBA, MPH, CPE, is the forensic pathologist whose research over the last 14 years into chronic traumatic encephalopathy (CTE) in professional football players drew the wrath of the National Football League and recently inspired the movie Concussion.

Omalu, who is portrayed by Will Smith in the film, said he can’t watch any kind of American football because he has autopsied too many former players who suffered horrible deaths from CTE, some at young ages.

“There is no concept like a safe blow to the head. Everybody knows it; there’s no physician who would deny that. A blow to the head cannot be safe,” Omalu said in a recent interview with the Physician Leadership Journal.

Omalu didn’t set out to find a link between concussions, dementia and depression among pro football players. It happened almost by accident in 2002. At the time, Omalu was performing autopsies at the Allegheny County Coroner’s Office in Pittsburgh, Pennsylvania. A native of Nigeria, Omalu had almost no exposure to American football.

“Because I grew up in Nigeria, I knew nothing about American football. All I did … was I saw the game once in a while on satellite TV, people running around a field dressed like extra-terrestrials,” he said.

But he would learn a great deal about the popular sport.

MEETING MIKE — Before setting off to work one morning, Omalu flipped on the TV and heard breaking news about the unexpected death of Mike Webster, a pro football Hall of Famer who had played center for the Pittsburgh Steelers and the Kansas City Chiefs.

Nicknamed “Iron Mike” for his toughness, Webster had aged quickly after leaving the NFL, disabled by pain and suffering bouts of amnesia and depression. Nevertheless, his death sent avid Pittsburgh fans into mourning.

Then, fate stepped in.

“I got to work, and lo and behold by serendipity, Mike Webster was in the morgue. In fact, he was on my autopsy table,” Omalu said. The pathologist said he had heard news anchors detailing Webster’s physical and mental troubles. And as Omalu does in all his autopsies, he talked to the deceased as if he were still alive.

“I said to him, ‘You know, Mike, having heard what I heard
about you, I don’t think you’re a bad person, I think there’s something wrong with you. But you are to help me, guide me to the truth. Let’s get to the bottom of this,” Omalu recalled.

Although clearly it was a heart attack that killed Webster, Omalu had some nagging suspicions that something more might be wrong. Omalu thought about the violent hits Webster took during his career and decided to examine his brain.

“When I was opening up his skull, I believed I was going to see a diseased brain, a bad brain that had been beaten up from all the years of repeated blows to the head.” But, in fact, Webster’s brain appeared normal.

Still, something didn’t seem right. “I chose to fix (and preserve) the brain, so I could spend time with it. I did not know what I was looking for. But, intellectually speaking, there was a mismatch between my expectation, my intellectual expectation, and my autopsy findings,” Omalu said.

A few weeks later, he received slides of the brain tissue to study, but put off looking at them for a while. When he finally got around to viewing them one Friday night, he was surprised to see abnormal proteins on the slides.

“I spent hundreds of hours on those slides,” he said. “When I became convinced of what I was seeing, I was convinced it was not Alzheimer’s disease, it was not dementia pugilistica, like you see in boxers. The next question was, ‘What is it?’

“I did not know.”

He combed through thousands of articles and papers trying to identify the disease, but there were no reports to be found. Other pathologists and a noted neurologist looked at the slides and also were baffled by what they saw. So they decided to publish a paper on the subject, putting together the generic terms for traumatic brain injury and titling the paper: “Chronic Traumatic Encephalopathy in a National Football League Player.” It was published by the journal *Neurosurgery* in 2005.

The paper drew little interest at first, but later attracted the attention of the country’s largest sports organization: the NFL. Omalu said his research was attacked by many critics, including some who wanted him to retract his paper. Lengthy battles continued, but Omalu finally won the respect of a former NFL physician who helped publicize his warnings about contact sports and CTE.

Since the paper was published, several other pro football players who died were found to be suffering from CTE, including Terry Long, a former offensive lineman for the Steelers, and Andre Waters, a former NFL safety who played for the Philadelphia Eagles and Arizona Cardinals. Omalu conducted autopsies on both and confirmed the disease.

Messages left with the NFL’s media relations department asking for a statement about Omalu’s research and CTE were not returned.

However today, CTE is widely known and the NFL has funded studies of the disease and additional concussion research. “In less than 10 years, I don’t think there’s anybody in America today who cannot have heard of CTE,” Omalu said.

He’s quick to point out, however, that he never set out to target football, and CTE is more widespread than a single...
But concussions that can lead to CTE could happen in many other ways, he said, including falls, assaults, car accidents and explosions. “I examined the brains of two retired military veterans because they, too, are exposed to repeated sub-concussive blows from ordinances, the wave front of explosions,” Omalu said. “They had CTE. One committed suicide; one died from a drug overdose.”

NONCONFORMIST WAYS — Even during his childhood in Nigeria, Omalu was something of a nonconformist, making his own way. At 16, he entered medical school in Nigeria and later came to the United States, where he completed his residency in pathology at Columbia University’s Harlem Hospital Center. He also earned an MPH from the University of Pittsburgh and an MBA from Carnegie Mellon University.

He credits the knowledge he gained through business school with helping him strategize ways to combat the attacks that were made on his reputation and research. “As physicians, we don’t receive good business management education. That is one of the weaknesses of the current medical school curriculum,” he said.

In one of the opening scenes of the movie, Smith, portraying Omalu, is testifying as an expert witness at a murder trial. He is asked about his credentials and lists all his degrees. He also tells the courtroom he’s a “CPE — certified physician executive.”

Omalu earned his CPE in 2011 and says the physician leadership skills that have proven to be the most important in his career are human communication and the ability to recognize the humanity in all people.

“What can we do, in whatever endeavor we find ourselves, to bring out the best in others? Because when you bring out the best in others, you’re also bringing out the best in yourself. Because you are, or we are, members of one another. That is the single, most-vital tool that I’ve learned from all this.”

Deeply spiritual, Omalu displays crucifixes throughout his home and often invokes God’s name as he talks about the path he has taken and his plans for the future. He is chief medical examiner in San Joaquin County, California, and an associate professor in the University of California, Davis, Department of Pathology and Laboratory Medicine. He lives in the Sacramento area with his wife and two young children.

Although he is not certain what his future holds, he’d like to expand the study of CTE. “I think we should begin to establish CTE clinics all across the country,” he said. “The top university hospitals in this country should begin to establish centers of excellence for CTE treatment, just like we have cancer centers all across the country. Traumatic brain injury has become a major part of the 21st century way of life. And I think traumatic brain injury is one of the challenges of our century, just like cancer.”

Omalu said that his background, especially growing up in a country where American football isn’t played, aided his discovery of CTE in football players. “If I had grown up in this country, maybe I would have been awed by the body of Mike Webster, that I would have not even touched it. I would have revered it: ‘This is the great Mike Webster, let him be.’ ”

Instead, he embraces his outsider status. “Identifying this disease in America’s most popular sport did not make me the most intelligent doctor, no. It did not even make me a great man, no. All it reaffirms is that I refused to conform to the expectations and demands of society. I refused to conform to the social intoxication of the culture — the culture or subculture of football.”

He believes there’s what he calls “conformational intelligence” playing a role in America’s love affair with football. Conformational intelligence, he explained, is giving in to the belief that the constant head-to-head contact isn’t really all that dangerous, and the action-packed hits make the game more exciting.

“I’m not against football. But I’m against mankind continuing to make the same mistakes of the past. We, as a society, we are evolving and as we evolve, we become more intelligent. And as you become more intelligent, you give up less intelligent ways that you did things in the past,” he said.

“Knowing what we know today, if you bring men together, place helmets on their heads and ask them to bump into one another for the sake of a game, you’re sacrificing the intellectual capacity of men for some transient, emotional excitement.”

Omalu said he receives emails and calls daily from football players, parents and others asking for information about CTE, with many wondering if there is any way to diagnose it before death. Currently, there is not.

Although Omalu knows the game of professional football likely will endure, he is concerned especially about children playing the sport. “As an adult, you’re free to do whatever you want to do. You’re free to go jump from an airplane down in skydiving. … I’ll stand by your right and defend your right, even if I have to die for it, to do whatever you want to do as an adult,” he said.

“But not our children. Not our children. We should stop deceiving ourselves by conformational intelligence that exposing our children to repeated blows on the head is good for them. What you’re inferring is that there is … a blow to the head that is safe.”

Bill Steiger is editor-in-chief of the Physician Leadership Journal, published by the American Association for Physician Leadership® in Tampa, Florida.

Photos by Tony Ramirez of the American Association for Physician Leadership®.

NOTE: To view video highlights of the interview with Bennet Omalu, MD, visit physicianleaders.org/concussion.