The Atlanta Journal-Constitution

FRIDAY, AUG. 17, 2007

ONLINE AT AJC.COM | 50¢

ELISSA EUBANKS / Staff

A 2004 car crash left **Marc Baskett**, 22, nearly brain dead. After an experimental treatment, he's "completely back mentally."

Female hormones put up fight against brain injuries

By KAVITA PILLAI
kpillai@ajc.com

Robert Smith was driving to his Hiram home in 2004 when his car flipped off a 13-foot embankment and wrapped around a tree.

Smith, who was partially ejected, was unconscious when paramedics pulled him from the wreckage, and doctors would later tell his wife that the prognosis wasn't good — if he survived, he'd likely be in a vegetative state.

But after two months in a coma, Smith awoke in a darkened hospital room. Nurses found him sitting in a chair. He could walk; he could talk. He remembered everything except for the week leading up to the accident and the accident itself.

Smith, now a network engineer for the Strategic Weapons Facility, Atlantic, in Kings Bay,

➤ Please see **BRAIN, A8**

Photos by ELISSA EUBANKS / Staff

Marc Baskett overcame a brain injury thanks to a clinical trial, and now he works as a caregiver to **L.G. Perry**, 82, in Commerce.

Brain: Drug study shows promise in treating injuries

➤ Continued from A1

attributes his extraordinary recovery to an experimental treatment he received at Grady Memorial Hospital as part of a study by Emory University researchers.

Shortly after he arrived in the emergency room, he was given high doses of progesterone, commonly known as a female hormone — a label researchers say can be misleading.

"I believe that the progesterone is the reason I'm back doing computer work," he said. "I didn't have to relearn how to walk, how to talk."

The 42-year-old husband and father was one of 100 participants in a three-year study of the safety of using progesterone to treat brain injuries.

Four of every five patients older than 18 who came in with a moderate-to-severe blunt head injury were given the progesterone within 12 hours of the injury. The other patients were given placebos.

The results, say project leader David Wright, were remarkable.

The research, published in April's Annals of Emergency Medicine, showed a 50 percent reduction in the mortality rate for the severe traumatic brain injury group that took progesterone. Doctors use the Glasgow Coma Scale to rate the conscious state of a person, with three being the worst and 15 being the best.

Smith said he was rated a three.

About 30 percent of placebo patients died within 30 days of their injury, while 13 percent of the progesterone group died.

For those with moderate brain injuries, Wright said the study showed less disability for those in the progesterone group. He added that the study's primary goal was to establish safety and that no adverse side effects were found.

Marc Baskett, 22, was another member of the progesterone group. He rated a four on the Glasgow scale after surviving a head-on collision on his way to a picnic in Helen, just three weeks before he was to graduate from high school.

"My parents thought I was going to be in a hospital for the rest of my life," said Baskett, who has had 16 surgeries for other injuries related to the 2004 accident.

"Now I'm completely back mentally. I'm just waiting on the physical stuff."

Baskett, who lives in Commerce, received his diploma while hospitalized. He now works as a caregiver for 82-year-old L.G. Perry, helping him with his everyday activities and health care needs.

If further study yields similar results, the hormone could become a major treatment for injuries that affect 1.4 million people in this country each year, according to the U.S. Centers for Disease Control and Prevention. Battlefield implications are evident: Severe head trauma has become a common injury for U.S. soldiers.

The Emory team is now designing an expanded clinical trial with 1,000 patients in 15 hospitals across the country. If that project is approved by the Food and Drug Administration and goes as planned, the treatment could be widely available as soon as three years from now.

Signature injury

With traumatic brain injuries the signature injury of the U.S. war in Iraq, Emory's researchers are hopeful that the progesterone study will lead to a viable treatment for victims of roadside bombs.

A 2003 survey of Walter Reed Army Medical Center patients back from Iraq showed 62 percent had sustained a brain injury.

Wright said the research team has had several discussions with the U.S. Department of Defense to inform them of the research.

He noted that no effective treatment for traumatic brain injuries exists, making its application to the military more profound.

"It's a horrible problem and you have nothing to treat these kids with," he said.

Wright said the military likely will wait until studies are complete before integrating the progesterone treatments.

20 years in the making

Emory neurobiologist Donald Stein has been researching progesterone's effects on the brain in animals for 20 years. His work laid the foundation for the clinical trial.

It has taken two decades to get to a clinical phase because progesterone often is viewed as "merely a female hormone," he said.

In fact, Stein said, progesterone is a neurosteroid. It is present in high levels in pregnant women — 40 to 60 times higher than in women who are not pregnant — because it helps to keep the fetus healthy and "provides nourishment to growing nerve cells."

It works in traumatic brain injuries because, Stein said, "it's doing the same kinds of things in injury as it's doing in the development of the nervous system."

In the study, progesterone helped to reduce swelling, which causes pressure to build up as the brain pushes against the skull. Smith said he was told that his head swelled to the size of a basketball after his accident.

For the next study, researchers hope to cut down the time between injury and the patient receiving progesterone.

For the Grady trial, doctors sought consent from family members when the patients could not give it themselves.

"Because this was a safety study, it was critical to get consent," Wright said. "It did add about four or five hours for every patient."

With safety now established, Wright said he wants to, as a last resort, enroll patients without informed consent. Doctors would seek family for one to two hours before enrolling them without consent.

As Wright focuses on continuing the clinical work for traumatic brain injury, Stein now is testing progesterone's effectiveness at treating stroke in animals.

Preliminary results, he said, are promising: substantial reduction in the damaged area — the brain tissue that is dying because of a lack of blood — after a stroke if progesterone is used.

Marc Baskett, 22, severely brain-injured in a 2004 head-on collision en route to a picnic in Helen, participated in a three-year study on the safety of progesterone in treating brain injuries.

Photos courtesy of Robert Smith

Robert Smith, 42, crashed his car (left) in 2004, while driving to his Hiram home. The accident left Smith in a coma for months. He credits progesterone treatments with his ensuing recovery.

The making of "Female hormones put up fight against brain injuries"

By Kavita Pillai

This story, my last at the *Atlanta Journal-Constitution* and my second to make the front page, was a classic case of a reporter and a public relations officer working together to put out an important story. After reading about the research on traumatic brain injuries in a publication put out by Emory University's School of Medicine, I began to pursue the story, knowing that my editors would show the most interest if I could find a patient willing to tell his or her story. By working with Emory and the researchers themselves, I was able to find not one, but two such patients. And their stories truly were remarkable. I received plenty of feedback after this story ran, including an e-mail from a mother whose son had been in a coma for several years. Although I knew the current research couldn't help her son immediately, it was nice to hear from someone who was given even just a sliver of hope from my article that didn't exist before.