Flesh-Eating Bacteria Case Highlights Need for Early Treatments

By Karen Rowan, Health Editor | April 17, 2012 09:28am ET



The diversity of bacteria is represented in this artist rendering.

*Credit: Dreamstime*

A 5-year-old boy in Wisconsin who fell off his bike, skinned his chin and bit his lip was likely one of thousands of kids with a minor injury that day in 2008.

But 36 hours later, this boy was in an intensive care unit fighting for his life, suffering from a very rare infection of ["flesh-eating" bacteria](http://www.livescience.com/16054-flesh-eating-bacteria-rise-tied-antibiotic-cream.html), formally known as necrotizing fasciitis, which had developed in his right cheek, near his lip.

The boy underwent surgery five times over the next three days, and each time, surgeons removed more dead tissue. As the boy's body struggled to fight the infection, his blood pressure dropped dangerously low.

"We were having really, really difficult conversations with the family about what the outcome might be," said Dr. Robert Chun, one of the boy's surgeons. The mortality rate among children with necrotizing fasciitis is about 25 percent, he said.

A few days later, the boy's condition began to improve. Today, he is a healthy child and a champion in his age group for bike racing, Chun said. He has a small scar that runs from the corner of his lip across part of his right cheek. "You notice it, but it's not disfiguring," said Chun, an assistant professor of otolaryngology at the Medical College of Wisconsin in Milwaukee.

The case prompted Chun and his colleagues to look at whether the rate of kids developing necrotizing fasciitis and the mortality rate from the condition have changed over the past decade. The findings are published today (April 16) in the journal Archives of Otolaryngology — Head & Neck Surgery.

**Necrotizing fasciitis cases over the past decade**

The researchers used data from the Kids' Inpatient Database, which includes data from children's hospital records from selected hospitals across the country. The number of hospitals that send information to the database increased over the study period, Chun noted.

The data showed that in 1997, there were 46 cases of necrotizing fasciitis reported among the 1.9 million records of children discharged from the 22 hospitals included in that year's data. In 2006, there were 105 cases among the 3.1 million discharge records from 38 hospitals, Chun said.

"That actually means the relative risk of you having the disease was just about the same," in 2006 as in 1997, Chun said.

Similarly, the researchers saw no improvement in the mortality rate over the study period. Chun said that the mortality rates seen in this study — 3.9 percent in 1997, and 5.4 percent in 2006 — were quite different from the 25 percent rate seen in most other studies, but the difference was likely due to the way deaths are coded on hospital records.

The main message of the study's findings is that "even with all the new [antibiotics](http://www.livescience.com/36150-antibiotics-sinus-infections.html) and treatments, this disease is still around," Chun said. "This is still prevalent in our age of increasing technology and medicine."

The bacteria that cause necrotizing fasciitis, called Group A strep, are common, and the infections seem to strike randomly. Therefore, it's important that doctors and parents be aware of the signs of the infection, Chun said. In adults, necrotizing fasciitis often occurs in people who have [diabetes](http://www.livescience.com/10195-1-3-americans-diabetes-2050-cdc.html) or a compromised immune system, but like most children who develop the infection, the boy in Chun's case was otherwise healthy.

**What parents should know**

It can be tough for parents to know when something is wrong. "How many kids get cuts and scrapes every day?" Chun said.

One of the key signs to recognizing necrotizing fasciitis is that the child feels a lot of pain at the site of the infection, out of proportion with what a parent might expect based on how in the injury looks, Chun said. Other signs include rapid swelling of the area, with the skin being very tense and firm, and a child who has gotten very sick — feeling lethargic, often with a high fever — in a short time.

Kids with more run-of-the-mill infections can be irritable or angry, whereas as kids with necrotizing fasciitis are much weaker and sicker, he said.

The odds for infected children improve when the condition is recognized early, Chun said. "The faster you act, and the more aggressive you are in surgery," in terms of removing tissue, the better chance that a child will live, he said. Tissue that has died due to the infection doesn't bleed when surgeons cut into it, Chun explained, so they have to operate until they reach tissue that bleeds.

"My advice to parents is that if your child is beyond normal — the pain is intense, the swelling is rapid, the child is becoming very, very ill — it's time to seek help," Chun said.

**Creating Your Case Study**

**Introduction**

-Introduce the microbe that is being discussed. What is the scientific name? Is it a bacteria or protest? Is it eukaryotic or prokaryotic? Include a microscope diagram of your microbe. Use specific stats to represent how prevalent this microbe is.

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**Case Presentation**

-Introduce the specific case outline. How was the patient infected? What were the symptoms?

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**Management and Outcome**

-How was the patient treated? What are the long term symptoms?

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**Discussion**

-How may this be prevented? Are there any take home ideas?

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