Rare disease claims children early

May 29 2009, By Ken Carlson

Soon after her second son was born in September 2006, Carolina Alfaro noticed he had trouble nursing. In the following months, Diego was unable to roll over or lift his head when he was laid on a blanket.

"When we put him down he just kind of flopped," Carolina said.

For a year, Diego underwent tests at Bay Area university hospitals before a child neurologist concluded the boy had Zellweger syndrome, a disabling genetic disease that occurs in less than one in 100,000 births.

The doctor told Carolina and her husband, Jose, that each carried the gene that causes the condition, and he asked if they planned to have more children.

Carolina already was three months pregnant. Soon after the birth, a test confirmed their newborn son had the disease, too. (They also have a healthy 4-year-old son, Jose.)

The parents juggled their schedules to care for two children with Zellweger syndrome, got up at night to turn their immobile bodies and make sure they were breathing properly, endured numerous trips to hospitals, then suffered the grief of Diego's death in February from complications of the disease. He was 2{.

What has made it bearable is taking their doctor's advice to just enjoy the children.

"It is the small stuff with special-needs children," said Jose, who works as an account manager for the E.&J. Gallo Winery in Modesto, Calif. "Diego left us with a lot of beautiful memories. ... He taught me to be a better father and a better person."

Jose liked to give a birdlike whistle when entering Diego's room, and even though the boy was deaf, his face would light up.

Last week the parents sat 16-month-old Adrian on the floor and were thrilled when he remained in the sitting position.

"Bravo," his mother said enthusiastically.

Zellweger syndrome is an inherited condition that damages the myelin, or the white matter of the brain's cerebral cortex, which sends signals telling the muscles and organs to function. One of the peroxisome biogenesis disorders, it also stymies the ability to remove certain toxins from the blood and organ tissue.

Babies with the condition have underdeveloped muscles and limited movement, and they may be unable to breast-feed or swallow solid food.

The disease often affects liver or kidney function, vision and hearing, and most children are lucky to live more than a year.

It's possible that Diego was not diagnosed sooner because he did not have one of the more extreme cases, said Dr. Elliott Sherr, a pediatric neurologist at the University of California at San Francisco Medical Center, who gave the Alfaros the diagnosis.

REALISTIC PROGNOSES

"When you talk with the parents, it is important not to be completely

dire, but it's also important to be realistic," Sherr said. "They have to understand the child will have significant problems and is likely to have a short life span."

After having one child with Zellweger syndrome, there was a 25 percent chance that a subsequent pregnancy would produce another child with the disease. Carolina Alfaro became pregnant before she and her husband knew what was wrong with Diego.

The Alfaros are doting parents and stress they wouldn't trade the experience of raising their Zellweger children.

With his long eyelashes and winning smile, Diego was a hit among the staff and students on the campus of California State University, Stanislaus, where Carolina is an admissions counselor.

Jose Alfaro made sure to give his son experiences that other children take for granted. To take Diego on bike rides, he propped him up with pillows and pulled him in a cart.

"He loved having us read to him," Carolina Alfaro said. "He would take a deep sigh and want to turn the page but wasn't able to turn the page. Even though he couldn't hear, we felt that he was responding to us. We just acted like he could hear us."

Adrian has more mobility. He sits upright and has control of his neck, babbles and often stretches out an arm to take hold of a colorful toy.

At 16 months, his diet consists of formula, though he can't bring his hands together to hold the bottle. When his parents hold him in a standing a position, his legs are unable to support his 17-pound body.

A physical therapist comes to the family's home to work with Adrian.

The Alfaros are frustrated that there isn't a treatment that would help Adrian continue his development. Children with Zellweger syndrome sometimes are given a fish oil supplement, which seems to have a benefit for some, though it isn't a cure.

CONDITION HAS COMPLICATIONS

Caring for the boys has been stressful. Diego required surgeries and regular care for a narrowing of his intestines. Adrian is taken to UCSF every two to three months to be monitored for progression of the disease. Tests are run to measure his liver enzymes and check for deterioration of the myelin.

Because the disease affects metabolism, patients with Zellweger syndrome have high levels of iron and copper in their blood, often resulting in an enlarged liver and neurological problems.

Despite spending countless hours on the Internet, his mom hasn't found other families in California touched by Zellweger syndrome. A family in Hollister, Calif., has a school-age daughter with Infantile Refsum disease, a related condition.

She found a peroxisomal disorder group on Yahoo.com with 45 member families worldwide, and that led to attending a conference in April in Illinois. At the conference, the Alfaros met a few parents with Zellweger children, and Carolina held a child who looked like Diego.

The Alfaros hope to make a difference on two fronts. A march at CSU, Stanislaus, in April raised money for a scholarship fund for students who study medical genetics. The first Diego Alfaro Scholarship was given last week to junior Nelson Membrano.

The Alfaros also are in the process of starting a foundation to establish a

respite-care house for parents of children with special medical needs.

After Diego was given a gastrointestinal tube for feeding, his mom discovered there were 11 respite care nurses in Stanislaus County and only two with GI-tube experience.

She trained a sister-in-law to care for Diego once a month so the parents could get some sleep.

The Alfaros' oldest son, Jose, is getting more attention these days. His dad likes to take him to a restaurant for sushi, his favorite food.

"It's hard letting go," Carolina said last week. "We've had three boys and we know eventually we will have just one."

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AT A GLANCE

Zellweger syndrome is the most severe of the four peroxisome biogenesis disorders. The less severe are Infantile Refsum disease, neonatal adrenoleukodystrophy and rhizomelic chondrodysplasia.

The diseases are caused by defects in genes that promote brain development and myelin, the white matter of the cerebral cortex.

The defective genes also reduce peroxisomes, the cellular material that breaks down toxins in the liver and other organs.

Symptoms include an enlarged liver, facial deformities, deformed earlobes, mental retardation and seizures.

Babies with Zellweger syndrome have undeveloped muscles, limited or

no movement, and impaired vision and hearing.

There is no cure; most infants do not live more than six months.

Researchers are exploring the molecular and genetic causes of the disease so that someday it can be prevented or treated.

Source: National Institute of Neurological Disorders and Stroke

On the Net:

www.ninds.nih.gov/disorders/ze … lweger/zellweger.htm; www.ulf.org; www.rarediseases.org.

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