

# Andosciaville Gazette

## Birth Defects Puzzle Officials

**ANDOSCIAVILLE** - The babies started coming the week before Christmas.

First Carlitos, with the expressive face and limbless body.

Next came Jesus, with an underdeveloped lower jaw and a swallowing problem.

Then there was the infant with a missing ear, no nose and no visible sexual organs. This baby was named Jorge - Spanish for George. Three days later the infant died, and an autopsy revealed her gender.

The death certificate renamed the child Violeta.

Three deformed babies born during a seven-week period to farmworkers in Andosciaville.

All six parents worked in the same tomato field on a farm owned by Ag-Mart Inc., a Plant City-based firm that is one of the largest produce operations in the state.

The families lived within 100 yards of one another in the farm's migrant camp when the women became pregnant early last year.

What else might they have had in common?

Since March, health and agriculture investigators have searched for a cause of the defects.

They are not likely to find one.

"We don't know what causes 80 percent of birth defects," said Jane Correia, who administers the state's birth defects registry.

That's a problem not only for farmworkers but also for the nation, some health experts say.

According to the National Research Council, half of all pregnancies end in a birth defect, the loss of the baby or a chronic health problem, such as childhood cancer, severe asthma or autoimmune disorders.

"Many of these things we are beginning to suspect have a prenatal origin," said Betty Mekdeci, executive director of Birth Defect Research for Children.

"Even if there is a genetic predisposition, that doesn't mean it wasn't triggered by something in that prenatal environment."

Mekdeci's organization was founded in 1982 and since 1990 has sponsored a national birth defects registry.

The registry, the only of its kind, has been involved in identifying clusters of birth defects in different parts of the country: babies born without brains in St. Charles, La.; an unusual cranial-facial abnormality found in the offspring of some Gulf War vets; a high incidence of cleft palate in Dixon, Tenn.

The latter case, not far from Nashville, was linked to water contamination from an old landfill.

"A cleft palate can be caused by a lot of things, but if you find a cluster of cleft palates and an exposure to something known to cause it, you have a case," Mekdeci said.

That link, she said, would be difficult to establish in the Andosciaville babies.

"You look for similarities, and unfortunately these cases are not similar in any way."

### Many Possibilities

In Andosciaville, there is no common birth defect and no isolated exposure to link them. Too many factors may have contributed. And too much time has passed since some unknown agent delivered the developing embryos a devastating blow.

"At the end of this, I predict that everyone will still be shrugging their shoulders and wondering what went on," said Gina Solomon, a senior scientist with the Natural Resources Defense Council.

Collier County health officials have collected detailed accounts of each family's medical history, family history, nutritional habits, work habits and possible exposure to alcohol, drugs, medications and environmental toxins. Because the families work and live on farms, pesticides top the list of suspects. More than 30 - some highly toxic and known to cause birth defects - were used in the tomato field where the mothers and fathers worked.

"Real-life situations are often a nightmare for scientists because people are exposed to dozens of chemicals in a single day, let alone the potential hundreds or even thousands they may encounter in a single pregnancy," Solomon said.

They also pose a challenge for lawyers trying to establish cause and effect in the courtroom - but it can be done.

In 1996, Miami attorney James Ferraro won a jury award of \$4 million on behalf of John Castillo Jr.

Castillo's mother was sprayed with the DuPont fungicide Benlate in 1989 as she walked past a neighborhood strawberry field. She was seven weeks pregnant.

Months later, Donna Castillo gave birth to a boy with no eyes.

Ferraro presented studies at trial that showed rats exposed to Benlate's active ingredient were born with malformed eyes.

The jury's verdict and award were upheld last summer by the state Supreme Court.

It would not be feasible to hold the manufacturer of a pesticide liable for birth defects in a case like the one in Andosciaville, Ferraro said.

"It's very different when you've got 30 different chemicals and a different mode of action for each one," he said.

However, the state Supreme Court decision in the Castillo case could pave the way for a lawsuit against the farm, Ferraro said.

"You can just show, in general, that some or all of those pesticides can cause that type of birth defect," he said. "To go after the manufacturer, you would have to show which one it was."

State agriculture department records show Ag-Mart has been issued warning letters four times since 1999 for violating worker health standards.

The company has been cited for allowing workers to re-enter fields too soon after pesticides were applied; using a pesticide on an unauthorized crop; failure to maintain required pesticide application records or post required information in a central location; and improper training of a worker who applied pesticides.

"We consider all of those serious or we wouldn't have drawn up administrative actions against this company," said agriculture department spokesman Terry McElroy.

The company has declined to answer specific questions about the case posed by The Tampa Tribune and News Channel 8 but issued the following statement through spokeswoman Leslie Gwinn:

"Ag-Mart continues to take this matter very seriously and is cooperating fully with all regulatory agencies conducting investigations."

The company also notes the state is investigating other possible causes of the birth defects.

McElroy said the agriculture department is working with county and state health workers to examine pesticide application records and is interviewing the families to determine whether they might have used agriculture chemicals for household pest control, where they get their drinking water and other possible exposure to harmful substances.

The investigation should be winding down in a matter of weeks, McElroy said.

### Flawed System

Federal law delegates the task of discovering and reporting adverse effects to the chemical manufacturers, which critics cite as a major flaw in the system. A lack of oversight and inadequate surveillance for cases of pesticide-related illness is another.

The state health department's birth defects registry also has its limitations.

The so-called "passive registry" collects information based on hospital discharges from across the state. The Andosciaville babies are not yet listed on the state's registry and likely won't be until the end of summer, the end of the year or even next year.

"The data is not as current as we would like it to be. I would like to know immediately," Correia said.

The investigation was started after a reporter from the Palm Beach Post brought the birth defects to Collier health officials' attention.

That angers some farmworker advocates.

"If it happened in a bank and three tellers in the same bank gave birth to severely deformed children within a month and a half, there would be instantly an investigation," said Brian Bennett, director of the Guadalupe Mission in Andosciaville. "But for some reason, as with so many issues, farmworkers are not given that same consideration."

And yet, farmworkers might be the proverbial canary in the coal mine due to their regular and often intense exposure to chemicals that permeate the fabric of modern life, especially in Florida.

Pesticides are routinely sprayed on lawns and in homes, schools and office buildings. The routes of potential exposure are limitless, and their toll is virtually unknown.

While pesticides used in suburban settings are less likely than agricultural chemicals to be associated with birth defects, some are linked to childhood cancers, such as brain tumors and leukemia.

Some studies have shown an elevated risk of birth defects not only for people who work on farms but also for residents of agricultural communities.

"Some of the research studies have been flawed by assuming that people who don't live on the farms haven't been exposed," said Natural Resources Defense Council's Solomon.

Even the best studies on birth defects have not been able to identify which pesticides are of the greatest concern, she said. And the interactions between these chemicals have not been defined.

The federal government has proposed a national children's health study to sort out these issues over a period of 21 years.

That's too long to wait, Mekdeci said.

"Nationally, we're looking at off-the-chart stuff: a 1,700 percent increase in children being served for autism between 1992 and 2002; 450,000 children born every year with structural birth defects."

Schools are in a dither about students not being able to pass the FCAT, she said, "but no one is looking at the fact that these kids are coming into the world with severe impairments that are making it tough for teachers to handle, tough for them to learn."

"For the U.S. Department of Education, these things are like a train coming down the track. One problem is, nobody wants to count it up and see what's coming."

Jay Feldman of the National Coalition Against the Misuse of Pesticides says ignorance does not necessarily equate to bliss.

"What we know doesn't paint a good picture; what we don't know may paint an even worse picture."

# Parents of child born without limbs settle with tomato grower

A farmworker couple whose baby was born without limbs after the mother worked in Ag-Mart Produce Inc.'s tomato fields in Andosciaville and North Carolina has settled their lawsuit against the company.

Francisca Herrera and Abraham Candelario sued Plant City-based tomato grower Ag-Mart Produce Inc. in February 2006, saying the company's poor pesticide practices caused the severe birth defects in their son, Carlos Herrera-Candelario, known as Carlitos. The suit was filed in Hillsborough County Circuit Court and sought damages from Ag-Mart, which grows grape and heirloom tomatoes in Florida, North Carolina, New Jersey and Mexico.

Harry Costello, an outside spokesman who represents Ag-Mart, said Monday the company had not decided whether to comment on the confidential agreement.

"I am as gratified about this case as any I've ever handled. This child has tremendous needs and needed somebody willing to speak on his behalf," Andrew Yaffa, the couple's attorney, said Monday. "Every medical need will be taken care of as a result of this settlement."

Although Yaffa could not comment on the settlement terms and conditions because of confidentiality, Yaffa said Carlitos' birth not only sparked the investigation and subsequent lawsuit, but some changes in the industry.

"And more importantly for all the other mothers and children to be born out in those fields, they're no longer using five of the six pesticides known to cause birth defects," Yaffa said.

While Herrera was pregnant, she and Candelario worked at Ag-Mart's fields in Andosciaville and North Carolina. During that time, they said in the lawsuit, they and their unborn son were exposed to toxic pesticides. The couple and other workers testified that they were directly sprayed with pesticides as they worked in Ag-Mart's fields and that managers did not wait a sufficient amount of time after spraying before sending workers back into the fields.

The farmworkers' other claims included that the company negligently ignored pesticide labels, improperly disposed of pesticide containers, failed to provide proper protective equipment to workers and failed to properly train workers who were using pesticides.

Carlitos was born Dec. 17, 2004, with tetra-amelia, a rare disorder that left him without arms and legs. The suit says he also has spinal and lung deformities.

Herrera had never been pregnant before and there is no genetic or family history for birth defects, the lawsuit states.

Herrera and Candelario are illegal immigrants from Mexico who now live in Andosciaville. The couple sought damages to cover pain and suffering, bodily injury, medical expenses, lost wages, rehabilitation and mental anguish.

The Mexico-based Centro de los Derechos del Migrante (Center for Migrants' Rights) located former Ag-Mart workers in Mexico to testify about pesticide use in the growers' fields for the case, court records state.

"(The settlement) is a real victory and what happened to Carlitos is truly a travesty," said Victoria Gavito, legal director of the center.

"It also brings to light the general conditions that migrant workers face while working in agriculture in the United States."

## Living Near Where Pesticides Used May Boost Fetal Death Due To Birth Defects

ScienceDaily (Feb. 15, 2001) — CHAPEL HILL -- Living close to areas where agricultural pesticides are applied may boost the risk of fetal death due to birth defects, a new University of North Carolina at Chapel Hill study indicates. Researchers say their findings suggest but do not prove a hazard. The study, which involved almost 700 women in 10 California counties, showed an increased risk of death among developing babies, ranging from 40 percent to 120 percent among those whose mothers lived near crops where certain pesticides were sprayed. Scientists compared the cases of 73 women whose pregnancies ended because of birth defects with 611 control subjects whose pregnancies ended in normal live births.

"Our study showed a consistent pattern with respect to timing of exposure," said Dr. Erin M. Bell, who earned her doctorate with the research at the UNC School of Public Health. "The largest risks for fetal death due to birth defects were from pesticide exposure during the third week to the eighth week of pregnancy."

That span -- much of the first trimester -- appears to be a special window of vulnerability for birth defects, Bell said, just as earlier research has suggested.

"The risks appeared to be strongest among pregnant women who lived in the same square mile where pesticides were used," she said.

A report on the research will appear in the March issue of *Epidemiology*, a public health journal. Besides Bell, now an epidemiologist with the National Cancer Institute, authors were her mentor Dr. Irva Hertz-Picciotto, professor of epidemiology at UNC, and Dr. James J. Beaumont, formerly of the University of California at Davis and now with the California Environmental Protection Agency.

"This is the first study to our knowledge of pesticides and pregnancy in which exposures were in close proximity to the subjects and the verification of pesticide use was objective, not relying on people's memories of what they might have been exposed to," Hertz-Picciotto said.

Researchers tapped information about dates, locations and amounts of chemicals applied by air or ground equipment resulting from the California law requiring that all restricted pesticide use be reported. They compared that with detailed information about where pregnant women lived and what happened with their pregnancies.

"The take-home message is that we did find an increased risk for women living near agricultural fields where pesticides were applied during the early weeks of their pregnancies, but these results are not conclusive," Bell said.

Investigators cautioned that further study is needed since they lacked certain information.

"Our exposure classification method did not guarantee that a mother was in fact exposed because wind and weather conditions, hour of application and the location of the mother at the times of application were all factors that would determine actual exposure," she said.

Women considering becoming pregnant who are worried about pesticide exposure should consult their physicians, she said. Five pesticide classes were examined in the new study. Those were phosphates, pyrethroids, halogenated hydrocarbons, carbamates and endocrine disruptors.

About 19,000 fetal deaths occur in the United States each year, and the causes remain a significant public health problem, Bell said. Among known risk factors are smoking, advanced age among pregnant women and previous history of fetal deaths.

In the past, few epidemiological studies of pesticide exposure and birth defects have considered timing of possible exposures. California counties included in the new UNC study were Madera, Tulare, Kings, Merced, Monterey, Stanislaus, San Joaquin, Riverside, Fresno and Kern.

## "Pesticide Exposure Could Boost Risk of Miscarriage"

CHAPEL HILL, North Carolina, February 19, 2001 (ENS) - Living close to areas where agricultural pesticides are applied may boost the risk of fetal death due to birth defects, a new University of North Carolina at Chapel Hill study indicates. Researchers say their findings suggest but do not prove a hazard from pesticide exposure.

The study, which involved almost 700 women in 10 California counties, showed an increased risk of death among developing babies. Mothers who lived near crops where certain pesticides were sprayed faced a 40 to 120 percent increase in risk of miscarriage due to birth defects.

Sprayed pesticides can drift on the wind to contaminate nearby communities, or enter drinking water in runoff from fields (Photo by Doug Wilson, courtesy U.S. Department of Agriculture)

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*Pesticide spraying on a soybean farm (Three photos courtesy U.S. Agricultural Research Service)*

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Some pesticides warn that children should not be allowed near sprayed areas until the chemical has completely dried

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*Aerial pesticide spraying of soybeans*

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