



Studies on birth defects in Corpus Christi inconclusive

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Anton Caputo **Express-News**

The sixth — and likely final — state-funded study to look at high birth-defect rates in Corpus Christi could not conclusively link any of the medical problems with local sites considered by some to be environmental hazards.

The study found high rates for several defects among babies whose mothers lived close to the sites, usually within a mile. These included incinerators, landfills, refineries, airfields and a battery recycling facility.

The rates in some cases were 50 percent greater, or even more, than rates in populations that lived farther from the sites. But none showed all the characteristics that conclusively link a defect to a specific site, said Peter Langlois, senior epidemiologist with the Texas Department of State Health Services.

"My overall bottom line is there is little evidence to say that maternal residential proximity to these sites actually caused the birth defects examined," he said.

The study is likely the last in a series conducted since 2001 by the state health department on the prodding of Citizens for Environmental Justice, a community activist group. A study last year showed that the rates of severe defects in Corpus Christi is 17 percent higher than the rest of the state, and rates of overall birth defects are 84 percent higher.

Langlois said some of that can be attributed to Corpus doctors screening for defects, particularly minor heart defects, more carefully than their counterparts throughout the state. But really, the question remains unanswered, he said.

Although Friday's study was inconclusive, it did find some birth defects and hazardous sites that met two of three thresholds for a link.

The thresholds include: a birth defect rate at least 50 percent higher than the rate in populations that live farther away from a site; a judgment of statistical significance, meaning that mere chance cannot be responsible for the elevated rate; and a proximity response, which means that the rates of a defect are greater for those who live very near a site than those who live slightly farther away.

The defects that showed two of three thresholds include:

High rates of large intestine defects among mothers whose babies lived near the old city incinerator.

High rates of gastroschisis, a defect in which a baby is born with a hole in the stomach and the intestines poking out, and high rates of a defect of the diaphragm for babies whose mothers lived within 2.5 miles of refineries or chemical plants.

High rates of heart valve defects among babies of mothers who lived near military airfields.

High rates of heart and urinary tract defects among babies of mothers who lived near a battery recycling site.

Langlois did not recommend a follow-up study, but said more studies of the defects near the airfields, incinerator and battery recycling plant "might produce more compelling results if conducted by investigators with the expertise and the time to gather additional data."

Suzie Canales of Citizens for Environmental Justice said the series of studies was worthwhile despite the inconclusive results.

"We knew that this study was not going to be able to say definitely," she said. "But we have an indication that women may be at higher risk and they deserve to know that."

Study casts doubt sites caused defects

By Dan Kelley
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CORPUS CHRISTI — A long-awaited study exploring a relationship between a high rate of birth defects in Nueces County and several industrial sites showed little evidence the sites caused birth defects, according to the Texas Department of State Health Services.

Some sites were associated with higher rates of specific defects, according to the paper, but researchers could not find evidence that pointed to a direct link.

Still, a local environmental activist whose inquiries led to the study said it showed what she suspected -- that with or without a hard-to-prove direct link, "we have a problem."

The study is a follow-up to a report issued in the summer of 2006 that showed Nueces County had a rate of birth defects 84 percent higher than the rest of Texas.

The follow-up study, authored by epidemiologist Peter Langlois, looked at 15 birth defects and used three statistical tests.

To establish a direct, causal link, each cluster had to meet all three tests.

No defect met all three -- though several met two requirements, which could point to an increased risk to pregnant women living near a site.

The first test examined the relationship between location of the industrial site and the birth defects cluster. Under this test, researchers tallied the number of specific defects into half-mile bands surrounding the facility. The nearer band would have to show residents living nearer to a site had more birth defects.

The second test examined the impact of other factors such as demographics on the number of defects. For example, poor women might have higher rates of defects because of a lack of prenatal care. Under this test, researchers might show that the number of defects is higher than would be expected given the demographics of the surrounding community.

A third test checked whether a cluster of birth defects could be happenstance.

There were more babies born with gastroschisis -- a condition in which babies are born with a portion of their intestines outside their body -- to mothers who lived near landfills. Tests showed there was a strong case to be made that the number of defects there were higher than would be expected. Researchers could not rule out, however, the possibility that chance played a role in the cluster of birth defects.

Mothers living near refineries and chemical plants showed high rates of gastroschisis and anomalies of the diaphragm, but again, chance couldn't be ruled out.

Military airfields showed high clusters of several heart valve defects, and there was little possibility the results were attributable to chance or demographics. But the relationship of living near the airfields was unclear. In some cases there is a higher rate between a half-mile and mile from the airfield, but residents living nearer did not exhibit higher rates of that defect.

Living near the city's old incinerator was related to babies born with narrow anal and intestinal canals but the data did not show a clear link related to the distance from the site. There was also a cluster of babies born with obstructed or narrow urinary tracts near the incinerator, but the study could not rule out chance as a cause.

Residents near a battery recycling plant showed higher rates of five different birth defects and there was a strong relationship between living near the plant and two of the defects. But again, researchers could not rule out that chance played a role in the cluster.

Suzie Canales, executive director of Corpus Christi-based Center for Environmental Justice, the group that requested the studies, said there was still cause for concern because pregnant mothers living near the industrial sites face higher risk.

"We knew going into this study that whether or not this study found an association between the sites and birth defects, it wasn't going to be conclusive either way," Canales said. "This study is not capable of proving causation but it is of great value because it is a good indicator of a problem; and it's obvious, we have a problem.

"Different people will take different things from this and will interpret this in different ways. It's all a sort of weight of evidence. If it met all three criteria, it's a causal association. I'd say yes, there's cause for concern there. As you meet one or two criterion, the weight of the evidence becomes less. It's a suggestion of risk, I suppose."

Langois, the study's author, said the paper does not rule out a common, community-wide exposure to emissions from the sites as cause for the high level of birth defects. The state does not anticipate any further study in Corpus Christi, but the study does lay the groundwork for a further examination, especially with regard to the battery recycling plant, military airfields and incinerator.

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Study Links Environmental Hazards, Birth Defects in Nueces County

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A state study released Friday links mothers living near environmental hazards to children with birth defects, a connection that may explain Nueces County's high rate of children born with defects.

The types of sites mentioned in the study include landfills, refineries, and chemical plants in Nueces County. State officials said birth defects are 84 percent more prevalent in here than in the rest of the state.

It is possible environmental factors could contribute to the numbers, they said.

The Texas Department of State Health Services conducted a study with data from 1996 to 2003.

The birth defect gastroschisis, in which a baby's intestine grows out of a hole in its abdomen, for example, has been link in studies to how close the baby's mom lived to a landfill.

There is no direct roof, but environmental factors have not been ruled out, either.

Regardless, Suzie Canales, director of Citizens for Environmental Justice, said it is important to educate people about the findings.

"We've really succeeded because now, people will seriously look at this and not just put the blame on the mother, Canales said.

The study did not get into detail about which hazards may cause which defects, but reportedly another study in the works will try to determine that by testing blood and urine of people who live next to dangerous sites.

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