SCIENCE

esday, May 2, 2000

vcott airpor Doctors fight brain defect

old or has less than 40,000; children cluster around Dr. Max Muenke. Most sit in odometer. That driver car wheelchairs, their muscles either too rigid to move or g the car to the airport for too floppy to hold them up. Many cannot speak. from the model date. me faces bear signs of their illness: a misshapen

All vehicles in servicez head, cleft palate, eyes pushed together. In the worst airport as of June 3 had to cases, babies may have one centered eye. These children have a baffling brain defect called been less than 5 years old

The regulations maken holoprosencephaly, and their parents brought them to he National Institutes of Health (NIH) in desperate er for drivers to stay in bus said Kamal Aldomour, at hope that Muenke can help unlock the mystery.

Sometime during the first few weeks of fetal defor Ranger Taxi who own own vehicle. Stagnant ca elopment, something went terribly wrong and rates and an increase in gas topped these children's brains from dividing into prices already have cutimm normal right and left sides. Now, scientists at the NIH its, he said. nd five new brain centers around the country have Aldomour said he some begun the first real effort to attack this defect and im-

have to lease a vehicle from Re ove these children's lives. his car turns five years old. The reason: A wealthy Dallas family, frustrated at y costs will double and I we doctors' inability to help their 4-year-old son, has make ends meet," he said. aised almost \$10 million bankrolling new "Carter vid Jini, a manager for Examplements for Brain Research" to study HPE and pron Taxi of Dallas, said he is vide expert care.

g his striking drivers, evena Muenke's quest is to test these children's genes, ny loses money. nting which ones went wrong. The first question a nese are our drivers. We will rent asks: Will the gene testing provide a cure? up, but DFW is one of the "We need to learn first how come your child has cab companies can work oloprosencephaly," Muenke replies gently. "I feel We hope to help both sides would be lying to you if I said I expect a cure in the ext years.

> Yet while he warns against false hope, Muenke is utiously excited. Already, drugs are helping some

a vehicle that is fewer 📩 BETHESDA, Md. (AP) — About two dozen 🛛 learn and communicate are under development. Suspect genes are under study.

"We're pushing the envelope," said Dr. Stephen Kinsman of the HPE center at Baltimore's Kennedy Krieger Institute. "We're saying, 'How is the brain working in this child and what are the next brain processes we need to help in this child's development that will give them more function?'

And the influence of the new Carter centers sparked the NIH to bring together about 70 neuroscientists to share the latest research with parents.

"I want to ask how much more can I do for her. I want to know if there is something more," said Irene Leal, who brought 4-year-old Jessica from Texas to be examined at NIH.

Jessica can't walk or talk, but she has proved wrong doctors who predicted she'd have no mental function: With a huge grin, she promptly responds when her mom, in English or Spanish, asks her to blow a kiss.

HPE affects an estimated one in 10,000 live births and is believed responsible for thousands more miscarriages

Severe HPE can kill quickly, while some mildly affected children may live largely normal lives. Moderate HPE, in turn, causes varying disabilities: problems moving, seizures, inability to speak or eat solid foods, and facial defects.

Specialists can help, yet parent after parent tells of doctors who dismissed them.

'There is a huge amount of ignorance out there in the physician community," said Dr. Hal Urschel III,

Frustrated by the hunt for care, his family's Don and Linda Carter Foundation recruited specialists and established HPE centers at Krieger, Texas Scottish Rite Hospital for Children in Dallas, Stanford University, Rutgers University, and the Children's Hospital of Philadelphia.

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The centers provide HPE exams, enroll patients in treatment studies, and guide families to medical information and resources for equipment like wheelchairs. Many services are free to families; check http://www.stanford.edu/group/hpe for information.

What these scientists learn about HPE could open new insight into numerous other brain disorders, such as cerebral palsy.

Nobody knows what causes HPE. Mothers with diabetes or abnormally low cholesterol levels seem at higher risk of having an HPE baby. Occasionally is it inherited. Various drugs or chemicals are suspects.

Doctors can't rebuild a malformed brain. Still, "we've seen a lot of progress," said Nancy Clegg of Texas Scottish Rite, describing drugs that ease some movement problems.

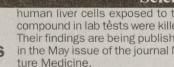
Now cutting-edge brain tests promise to determine why one child fares so much worse than another, and what cognitive function patients who can't move or speak actually have.

How? Rutgers scientists measure IQ by tracking a child's eye gaze. Another test measures fleeting electrical impulses to pinpoint which brain regions function best. Figure that out and scientists might one entist April Benasich.

greement."

tests were on the near horizon.

Stephen C. Strom of the University of Pittsburgh discovered that



his findings

Williams, chief technology officer

The connection between anger

The study adds to previous research showing a link between



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