

'Old-fashioned' pills cure baby born diabetic

By Roger Highfield, Science Editor

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A two-year-old boy born with diabetes was able to walk for the first time and develop normally after scientists uncovered the underlying genetic cause of his illness and found that an old-fashioned drug could treat it.

Even more remarkably, the cure had already been discovered by accident in Brazil four decades ago, when a baby was given the drug in desperation.

He is still alive 46 years later, and his example shows that the drug can free children born with the rare form of diabetes from a lifetime of injections, as well as helping to advance understanding of the more common forms of the disease.

Diabetes diagnosed within the first six months is devastating. Some babies suffer from muscle weakness and may have neurological problems such as epilepsy. Treatment with insulin injections is not fully effective so development lags.

Now the underlying cause of around one third of the cases of neonatal diabetes has been discovered by an international team, including scientists in Exeter's Peninsula Medical School and the University of Oxford, led by Prof Andrew Hattersley.

The study, published in the *New England Journal of Medicine*, shows that mutations in a gene called Kir6.2 are a common cause of this disease.

Dr Anna Gloyn of Peninsula Medical School, the lead author, said: "It is a very exciting finding that has resulted in the real possibility of stopping insulin injections."

Instead of controlling blood glucose with insulin injections, at least some of the babies can now be treated by taking pills called sulphonylureas. In Holland, a sulphonylurea drug has been tested by Prof Jan Bruining of Sophia Children's Hospital, Rotterdam, and Dr Rose Nuboer.

The disease had set back the development of their patient, Euyel Azezew, by a year, and he was

unable to sit unaided. Two weeks after receiving the drug he started to walk, said Dr Nuboer.

"We saw an improvement in his mental development and he also could talk better. After some months we could stop the insulin and the use of an insulin pump."

Euyel, now two and a half and living near Amsterdam, is making remarkable progress. "There's a good chance he won't have delayed development in a year or two," said Dr Nuboer.

Euyel is the second baby to be successfully treated this way. Forty years ago in Brazil, a baby boy born with diabetes was unable to be treated with insulin because it was not available.

At that time, sulphonylureas were beginning to be used to treat adult (type 2) diabetes so doctors prescribed the boy the drugs in desperation.

Children with neonatal diabetes are not usually given sulphonylurea drugs as it was previously thought, incorrectly, that they suffered from type 1 diabetes, for which such drugs are ineffective.

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