Caesarean babies more likely to develop diabetes

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Babies delivered by Caesarean section have a 20 per cent higher risk than normal deliveries of developing the most common type of diabetes in childhood, according to a study led by Queen's University Belfast.

The team, led by Dr Chris Cardwell and Dr Chris Patterson, examined 20 published studies from 16 countries including around 10,000 children with Type 1 diabetes and over a million control children.

They found a 20 per cent increase in the risk of children born by Caesarean section developing the disease. The increase could not be explained by factors such as birth weight, the age of the mother, order of birth, gestational diabetes and whether the baby was breast-fed or not, all factors associated with childhood diabetes in previous studies.

Dr Cardwell, from the School of Medicine, Dentistry and Biomedical Sciences, said: "This study revealed a consistent 20 per cent increase in the risk of Type 1 diabetes. It is important to stress that the reason for this is still not understood. It is possible that children born by Caesarean section differ from other children with respect to some unknown characteristic which consequently increases their risk of diabetes, but it is also possible that Caesarean section itself is responsible.

"Type 1 diabetes occurs when the immune system destroys the insulin producing cells in the pancreas, and one theory suggests that being born by Caesarean section may affect the development of the immune system because babies are first exposed to bacteria originating from the hospital

environment rather than to maternal bacteria."

Dr Chris Patterson said: "The study findings are interesting, but unless a biological mechanism is established it would be unwise to read too much into this association between Caesarean section delivery and diabetes.

"Fortunately figures from the Northern Ireland Type 1 diabetes register indicate that only around two per 1,000 children will develop diabetes by their 15th birthday so a 20 per cent increase is on quite a low baseline risk."

Diabetes is a serious condition that, if not managed, can lead to fatal complications including heart disease, stroke, kidney failure and amputations. There are 2.3 million people in the UK diagnosed with diabetes and 250,000 with Type 1 diabetes. In Northern Ireland over 62,000 people have diabetes, 6,000 of them with Type 1 diabetes.

Around one in four babies in Northern Ireland are delivered by Caesarean section, which is significantly higher that the World Health Organisation's recommended rate of 15 per cent.

Iain Foster, Director of Diabetes UK Northern Ireland, said: "Not all women have the choice of whether to have a Caesarean section or not, but those who do may wish to take this risk into consideration before choosing to give birth this way.

"We already know that genetics and childhood infections play a vital role in the development of Type 1 diabetes in children, but the findings of this study indicate that the way a baby is delivered could affect how likely it is to develop this condition later in life. Diabetes UK Northern Ireland would welcome more research in this area."

Source: Queen's University Belfast

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