

IVF children at risk of high blood pressure

Study finds teenagers born via assisted reproduction are six times more likely to have cardiovascular issues

By Sarah Knapton SCIENCE EDITOR

CHILDREN born through IVF are six times more likely to suffer high blood pressure than naturally conceived infants, putting them at greater risk of heart attacks and strokes, new research suggests.

In a study of 96 youngsters, researchers in Switzerland found one in seven teenagers who were born

through assisted reproduction had clinically high blood pressure by the age of 16, compared with just 2.3 per cent of those born naturally.

Around 20,000 babies are born through IVF in Britain each year but Louise Brown, the oldest test-tube baby, is only 40 years old, so the long-term impact of fertility treatment is still unknown.

The researchers warned that the results showed "serious signs of concern" that IVF youngsters were at increased risk of cardiovascular problems which can lead to heart attacks and stroke.

"The increased prevalence of arterial hypertension in (IVF) participants is what is most concerning," said lead

author Dr Emrush Rexhaj, director of arterial hypertension and altitude medicine at University Hospital in Bern.

"There is growing evidence that assisted reproduction alters the blood vessels in children, but the long-term consequences were not known. We now know that this places children at a six times higher rate of hypertension than children conceived naturally."

Researchers also discovered that all IVF teenagers in the study had average higher systolic and diastolic blood pressure - 119/71 mmHg vs 115/69, respectively - the measure of pressure when the heart is contracting and between beats. Researchers had monitored the same youngsters five years

before and found no difference in blood pressure. "It only took five years for differences in arterial blood pressure to show," added Dr Rexhaj said.

"This is a rapidly growing population and apparently healthy children are showing serious signs of concern for early cardiovascular risk, especially when it comes to arterial hypertension."

In an accompanying editorial in the *Journal of the American College of Cardiology*, Dr Larry Weinrauch, of Mount Auburn Hospital, said the problem may be worse because children born as a result of a multiple birth or whose mothers suffered problems in pregnancy were excluded from the study. "We need to be vigilant in the development

of elevated blood pressure among children conceived through ART to implement early lifestyle-based modifications and, if necessary, pharmacotherapy," he added.

However, Prof Alastair Sutcliffe, an IVF expert of University College London, said fertility treatment may not be to blame for increased high blood pressure. "The young adults measured were not representative of the original group studied when they were younger as children; furthermore the study relied on a single blood pressure measurement," he said.

"One swallow does not launch a summer and whilst I laud the efforts to monitor health, this should be done on

a population basis, not with small, biased studies like this one."

Prof Tom Fleming, of the University of Southampton, said: "Because IVF as a clinical treatment for infertility has only been around for 40 years, the bulk of children born have not reached adulthood and middle age when cardiovascular conditions would normally become apparent, so more evidence may become available in future years.

"From a biological perspective, the early embryo is known to be sensitive to environmental conditions that may alter how it develops, affecting later gene expression and physiological condition, and may lead to changes such as hypertension."