

Birth rates after ICSI increase in first trimester pregnancy loss after the age of 37

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Women undergoing fertility treatment are more likely to give birth to a live baby after ICSI (intracytoplasmic sperm injection) if they are younger than 38 and 11 or more eggs have been retrieved from their ovaries in one ovarian stimulation cycle, according to analysis of one of the largest and longest-running ICSI programs at a single fertility clinic.

The research, presented at the annual conference of the European Society of [Human Reproduction](#) and Embryology, also showed that rates of preclinical abortion (defined as a miscarriage so early in the pregnancy that there is no clinical or ultrasound evidence of the pregnancy), miscarriage and overall pregnancy loss during the [first trimester](#) remained more or less constant until the age of 34, but increased steadily from the age of 35 onwards.

Dr Dominic Stoop, a senior clinical fellow and [gynaecologist](#), and Ms Eleonora Jansen, an [obstetrics](#) and gynaecology resident in training, who are both from the Centre for [Reproductive Medicine](#), UZ Brussel (Brussels, Belgium), and colleagues analysed data on ICSI collected prospectively over 18 years from 1992 to 2009 – a total of 23,354 ovarian stimulation cycles carried out at UZ Brussel.

"To our knowledge, there have been no other studies reporting on live birth rates after ICSI in relation to the number of eggs retrieved that also includes the risks for preclinical abortion and miscarriage for women with a positive pregnancy test after ICSI treatment. By focusing only on ICSI treatments, we know the exact number of mature eggs retrieved,

fertilised and implanted," said Dr Stoop.

The researchers found that the live birth rate was highly dependent on ovarian response. Women who had 11 or more eggs retrieved after stimulation had the best chance of a successful pregnancy; compared with these women, those who had 6-10 eggs retrieved had a 4.3% lower chance of a live birth, and those with only 1-5 eggs had a 16.4% lower chance.

Rates of preclinical abortion, miscarriage and overall pregnancy loss in the first trimester remained fairly constant until the age of 34, but then increased steadily. On average, rates of preclinical abortion, miscarriage and overall pregnancy loss in the first trimester were 8.5%, 6.8% and 16.9% respectively until the age of 37. Between the ages of 38-40 the rates rose to 13.8%, 16.6% and 33.8% respectively, and between the ages of 41-43 the rates rose to 21.6%, 31.6% and 56.7% respectively.

The risk of an ectopic pregnancy was not related to the age of the patient and remained at an average of 1.9% per cycle – a rate that is approximately the same as that seen in the general population.

Ms Jansen said: "This analysis provides interesting information regarding the outcome for patients undergoing an ICSI treatment. It demonstrates the strong correlation between ovarian response and the chances of achieving a live birth after ICSI. It enables the fertility specialists as well as the patients to calculate the chances of a pre-clinical abortion, a miscarriage or a live birth.

"The study also shows a strong increase in first trimester [pregnancy loss](#) after the age of 38, with an even more pronounced increase after the age of 40. These findings illustrate the important risks associated with the delay of childbirth to more advanced ages, especially until after the age of 38.

"The finding that the risk of ectopic pregnancy is unrelated to a woman's age, and is similar to that seen in the general population, is reassuring news for women undergoing [fertility treatment](#)."

Provided by European Society of Human Reproduction and Embryology

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