

Rate of ectopic pregnancy following IVF has almost halved in past 12 years

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The risk of ectopic pregnancy following fertility treatment with assisted reproduction (ART) is small but significantly higher than found in natural conceptions. Now, a nationwide population-based analysis of all ART pregnancies achieved in the UK between 2000 and 2012 has found that the rate of ectopic pregnancy following IVF and ICSI progressively decreased throughout these 12 years, almost halving from an overall rate of 20 to 12 cases per thousand.

The results of the study are presented today at the Annual Meeting of ESHRE in Lisbon by Professor Nikolaos Polyzos of the Centre for Reproductive Medicine at the Vrije Universiteit Brussels, Belgium.

Ectopic pregnancy occurs when an [embryo implants](#) outside the uterus, usually in one of the Fallopian tubes. Studies have found that its risk is elevated in ART conceptions, for reasons which are not completely understood. Several [risk factors](#) have been proposed, including abnormalities in the Fallopian tubes (an indication for IVF), transfer of multiple embryos, or the treatment technique itself. This study, performed as an analysis of all 161,967 UK treatment cycles reported to the HFEA between 2000 and 2012, aimed to discover if the advance in ART techniques in the past few years had affected the incidence of [ectopic pregnancy](#), and what its risk factors in ART might be.

The analysis showed that 1.4% of all ART pregnancies over the 12-year study period were ectopic. However, when assessed for each year, the incidence of ectopic pregnancy was found to have fallen progressively -

from a rate of 20 per thousand cycles in 2000 to 12 per thousand in 2012. This decrease in risk was statistically significant only in IVF and ICSI treatments, and not in IUI, suggesting that the advances made in IVF/ICSI techniques had had an effect on incidence rates.

When these same IVF/ICSI pregnancies were examined further, the major risk factor for an ectopic pregnancy was the presence of a tubal problem in the diagnosis, which more than doubled the risk (adjusted odds ratio 2.23). The second significant risk factor was multiple embryos transferred in treatment. The use of ovarian stimulation (vs no ovarian stimulation) or use of frozen (vs fresh) embryos made no difference.

Commenting on the findings, Professor Polyzos said that the decrease in risk of ectopic pregnancy in ART "appears strictly associated with the reduction in the incidence of tubal factor infertility and the transfer of fewer embryos" in ART. Details from the HFEA database showed that proportion of infertile patients with tubal disease having ART progressively decreased from 24% in 2000 to 12% in 2012.

Tubal factor infertility now accounts for an estimated 14% of all infertility and is usually the result of infection with Chlamydia trachomatis, the leading cause of bacterial sexually transmitted disease worldwide. "Consequently," said Professor Polyzos, "the implementation of national programmes aiming to reduce the incidence of tubal infertility - such as the UK's National Chlamydia Screening Programme - should be further reinforced." Campaigns for the widespread use of single embryo transfer in IVF, he added, would lower the risk of ectopic pregnancy even further by minimising the number of multiple pregnancies. A recent analysis of national IVF data in the USA found that the rate of ectopic pregnancy was 1.6% when one embryo was transferred, and 1.7%, 2.2% and 2.5% when two, three, or four or more embryos were transferred.

More information: Abstract O-166, Tuesday 16 June, Trends in ectopic pregnancy rate following assisted reproductive technologies. A 12 year nationwide analysis of 160,000 pregnancies

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