

Risk of Ectopic Pregnancy Associated With Assisted Reproductive Technology – United State, 2001-2011

Author: Kiran Perkins
Date: Monday, April 20, 2015
Time: 9:15 am/et
Location: Ravinia Ballroom

Summary: Contrary to popular belief, in-vitro fertilization carries about the same risk of ectopic pregnancy -- implantation of an embryo outside the womb -- as normal pregnancy. But ectopic pregnancy risk increases with higher numbers of transferred embryos.

Abstract:

Background: Ectopic pregnancy—the implantation of an embryo outside the uterus—is a leading cause of maternal disease and death, with a pregnancy-related mortality rate of 31.9 deaths per 100,000 pregnancies. There have been inconsistent reports of the risk of ectopic pregnancy following assisted reproductive technology (ART). Therefore, we assessed national incidence trends for ectopic pregnancy among ART users and identified risk factors associated with ectopic pregnancy.

Methods: We identified 553,577 pregnancies reported to the National ART Surveillance System during 2001-2011. We assessed temporal trends for the incidence of annual ectopic pregnancy by using Poisson regression. We used log-binomial regression models with generalized estimating equations for correlated outcomes within clinics to calculate unadjusted and adjusted risk ratios for the association between ectopic pregnancy and selected patient characteristics and treatment factors.

Results: 9,480 (1.7%) pregnancies were ectopic. The rate of ectopic pregnancy declined from 2.0% (n=735, 95% CI 1.9-2.2) in 2001 to 1.6% (n=968, 95% CI 1.5-1.7) in 2011 (P for trend <.001). The ectopic pregnancy rate ranged from 2.0% (n=7,469, 95% CI 1.9-2.0) for fresh, nondonor cycles to 1.0% (n=641, 95% CI 0.9-1.1) for fresh, donor cycles. Among fresh, nondonor cycles, the rate of ectopic pregnancy was 1.6% (95% CI 1.4-1.7) when one embryo was transferred, compared with 1.7% (95% CI 1.7-1.8), 2.2% (95% CI 2.1-2.3), and 2.5% (95% CI 2.4-2.6) when two, three, or four or more embryos were transferred, respectively (aRRs 1.11 95% CI 0.94-1.30, 1.33 95% CI 1.12-1.56, and 1.49 95% CI 1.25-1.78).

Conclusions: Ectopic pregnancy incidence after ART has decreased over time and may decrease further if fewer embryos are transferred during ART.