Large Study Provides Reassurance that COVID-19 Vaccination Does Not Affect Fertility or Early Pregnancy

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Washington, D.C. — Vaccination against COVID-19 did not affect fertility outcomes in patients undergoing in-vitro fertilization (IVF), a new study has found. The findings, which were published in Obstetrics & Gynecology (the Green Journal), add to the growing body of evidence providing reassurance that COVID-19 vaccination does not affect fertility.

Investigators at the Icahn School of Medicine at Mount Sinai (Icahn Mount Sinai), New York City, and Reproductive Medicine Associates of New York (RMA of New York) compared rates of fertilization, pregnancy, and early miscarriage in IVF patients who had received two doses of vaccines manufactured by Pfizer or Moderna with the same outcomes in nonvaccinated patients.

“This is one of the largest studies to review fertility and IVF cycle outcomes in patients who received COVID-19 vaccinations. The study found no significant differences in response to ovarian stimulation, egg quality, embryo development, or pregnancy outcomes between the vaccinated compared to unvaccinated patients.” said Devora A. Aharon, MD, first author of the study. Dr. Aharon is a fellow in reproductive endocrinology and infertility at Icahn Mount Sinai and RMA of New York. “Our findings that vaccination had no impact on these outcomes should be reassuring to those who are trying to conceive or are in early pregnancy.”

The study involved patients whose eggs were collected from the ovaries and fertilized by sperm in a laboratory, creating embryos that were frozen and later thawed and transferred to the womb, and patients who underwent medical treatment to stimulate the development of eggs. The two groups of patients who underwent frozen-thawed embryo transfer—214 vaccinated and 733 unvaccinated—had similar rates of pregnancy and early pregnancy loss. The two groups of patients who underwent ovarian stimulation—222 vaccinated and 983 unvaccinated—had similar rates of eggs retrieved, fertilization, and embryos with normal numbers of chromosomes, among several other measures.

The authors of the study anticipate that the findings will ease the anxiety of people considering pregnancy. “By leveraging science and big data, we can help reassure patients of reproductive age and enable them to make the best decisions for themselves. It will give people comfort to know that the COVID-19 vaccine does not affect their reproductive potential,” said senior author Alan B. Copperman, MD, FACOG, division director and clinical professor of obstetrics, gynecology and reproductive science at Icahn Mount Sinai and director of RMA of New York, which is recognized internationally as a leading center of reproductive medicine.

The patients in the study were treated at RMA of New York between February and September 2021. Patients undergoing IVF treatment are closely tracked, enabling the researchers to
capture early data on the implantation of embryos in addition to pregnancy losses that might be undercounted in other studies.

The publication of the new study coincides with the surge of the highly contagious Omicron variant. Previous studies have found that COVID-19 vaccination helped protect pregnant people—for whom COVID-19 substantially increases the risk of severe illness and death—from severe illness, conferred antibodies to their infants, and did not raise the risk of preterm birth or fetal growth problems.

“In Vitro Fertilization and Early Pregnancy Outcomes After Coronavirus Disease 2019 (COVID-19) Vaccination” by Devora Aharon, MD, Matthew Lederman, MD, Atoosa Ghofranian, MD, Carlos Hernandez-Nieto, MD, Chelsea Canon, MD, William Hanley, BA, Dmitry Gounko, MA, Joseph A. Lee, BA, Daniel Stein, MD, Erkan Buyuk, MD, and Alan B. Copperman, MD; Obstet Gynecol 2022;139

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About Obstetrics & Gynecology
Obstetrics & Gynecology is the official publication of the American College of Obstetricians and Gynecologists (ACOG). Popularly known as The Green Journal, Obstetrics & Gynecology has been published since 1953. Then as is now, the goal of the journal is to promote excellence in the clinical practice of obstetrics and gynecology and closely related fields. To do so, the journal publishes articles on a variety of translational and clinical topics.

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About the Mount Sinai Health System
The Mount Sinai Health System is New York City’s largest academic medical system, encompassing eight hospitals, a leading medical school, and a vast network of ambulatory practices throughout the greater New York region. Mount Sinai advances medicine and health through unrivaled education and translational research and discovery to deliver care that is the safest, highest-quality, most accessible and equitable, and the best value of any health system in the nation. The Health System includes approximately 7,300 primary and specialty care physicians; 13 joint-venture ambulatory surgery centers; more than 415 ambulatory practices throughout the five boroughs of New York City, Westchester, Long Island, and Florida; and more than 30 affiliated community health centers. The Mount Sinai Hospital is ranked on U.S. News & World Report’s “Honor Roll” of the top 20 U.S. hospitals and is top in the nation by specialty: No. 1 in Geriatrics and top 20 in Cardiology/Heart Surgery, Diabetes/Endocrinology, Gastroenterology/GI Surgery, Neurology/Neurosurgery, Orthopedics, Pulmonology/Lung
Surgery, Rehabilitation, and Urology. New York Eye and Ear Infirmary of Mount Sinai is ranked No. 12 in Ophthalmology. Mount Sinai Kravis Children's Hospital is ranked in U.S. News & World Report’s “Best Children’s Hospitals” among the country’s best in four out of 10 pediatric specialties. The Icahn School of Medicine is one of three medical schools that have earned distinction by multiple indicators: ranked in the top 20 by U.S. News & World Report’s “Best Medical Schools,” aligned with a U.S. News & World Report “Honor Roll” Hospital, and No. 14 in the nation for National Institutes of Health funding. Newsweek’s “The World’s Best Specialized Hospitals” ranks Mount Sinai Heart as No. 1 in New York and No. 4 globally, the Division of Gastroenterology as No. 3 globally, and the Division of Pulmonary as No. 6 globally. Newsweek’s “The World’s Best Smart Hospitals” ranks The Mount Sinai Hospital as No. 1 in New York and in the top five globally, and Mount Sinai Morningside in the top 20 globally.

For more information, visit their website or find Mount Sinai on Facebook, Twitter, and YouTube.

About RMA of New York

RMA of New York is widely recognized as a global leader in state-of-the-art reproductive medicine, and serves as the division of reproductive endocrinology and infertility at the Icahn School of Medicine at Mount Sinai. Led by an integrated team of physicians and scientists with extensive reproductive endocrinology, infertility, and embryology training, RMA of New York is renowned for its pioneering research in the field and for delivering high IVF success rates. For the past 20 years, the physicians of RMA of New York have consistently been distinguished as top doctors and super doctors by Castle Connolly and New York Magazine. Headquartered in midtown Manhattan, RMA of New York has fertility clinic locations throughout Manhattan, Brooklyn, Westchester, Long Island, and abroad in Mexico City.

For more information, please visit their website, or find RMA of New York on Instagram, Facebook and Twitter.