Medical Xpress

Standard IVF medication dose less effective in obese women

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Obese women may need a different dose of medication than normal weight women in order to successfully have their eggs harvested for in vitro fertilization (IVF), according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism* (*JCEM*).

IVF is a type of assisted reproductive technology used to help women become pregnant. More than 1 percent of all infants born in the United States each year are conceived using assisted reproductive technology, according to the U.S. Centers for Disease Control and Prevention.

IVF involves mixing sperm with an egg outside the body and then transferring the resulting embryo into the uterus. The goal is to harvest many eggs to ensure a successful IVF cycle. As part of the egg harvesting process, women receive a medication called a GnRH antagonist to prevent the brain from giving the ovulation signal too early and ruining the egg harvest.

"If the GnRH antagonist clears from a woman's body too quickly, there is a risk that the brain will signal the body to discharge the eggs from the ovaries too early," said one of the study's authors, Nanette Santoro, MD, of the University of Colorado at Denver. "We were surprised to find obese women were more likely to experience this, and it may be one reason why overweight and obese women have a higher rate of unsuccessful IVF cycles than normal weight women do."

The interventional study examined the rate of medication absorption in 10 obese and 10 normal-weight women. Researchers gave each participant a dose of a GnRH antagonist used in IVF procedures. To determine how quickly the medication was absorbed, the participants had their blood frequently sampled for six hours, beginning eight hours after the medication was first administered.

The study found the GnRH antagonist cleared out of the obese women's systems more quickly than the normal-weight women. In addition, half of the obese women had a rebound of luteinizing hormone – the hormone that causes the body to release eggs – during the 14-hour monitoring period.

"Our findings indicate obese women may need a different or increased dosing regimen to improve fertility treatment outcomes," Santoro said. "Given the cost of IVF and stress of infertility, it is important to maximize each woman's chances of conceiving a child."

More information: The study, "Evidence of GnRH Antagonist Escape in Obese Women," will appear in the May issue of *JCEM*.

Provided by The Endocrine Society

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