

Fertility and healthy outcomes for obese women



The impact of the nation's obesity epidemic is felt in nearly all areas of medicine, including reproductive healthcare. Overweight is defined as a BMI (body mass index) between 25 and 29 kg/m and obesity as a BMI of 30 kg/m or greater. Based on these standards, approximately one-third of U.S. women of reproductive age are overweight or obese. At UCLA, reproductive endocrinologists are familiar with obesity's impact on fertility and work with patients to maximize the opportunities for conception and a healthy pregnancy.

Obesity is known to have adverse effects on fertility. The condition is linked to menstrual cycle disturbances. Data from cross-sectional studies suggest that 30 to 47 percent of overweight and obese women have irregular menses. Additionally, research shows infertility in obese women relates primarily to ovulatory dysfunction, though other studies indicate that fecundity is lower even among obese women who ovulate normally.

Early consultation can expand options

Preconception counseling for obese women should address the medical, obstetric and neonatal consequences of obesity and its longer-term implications for offspring, says Mousa Shamonki, MD, director of In Vitro Fertilization and Assisted Reproduction.

“In some cases, obesity can negatively impact women's ability to conceive or can hurt their pregnancy,” he says. “This is an important issue we prefer to address, ideally, before they become pregnant.”

Emerging research in epigenetics and fetal programming has heightened the interest in preconception health status, appropriate pregnancy weight gain and avoidance of metabolic illnesses during gestation.

“We think if we can have a preventive strategy to avoid obesity prior to IVF we can optimize pregnancy outcomes,” says Daniel Dumesic, MD, division chief and professor, Reproductive Endocrinology and Infertility.

Effects on hormones

Endocrine mechanisms are disrupted by obesity, impairing reproductive function. Abdominal obesity increases circulating insulin levels, which has the effect of elevating functional androgen levels and ovarian androgen production. Peripheral adipose tissue can also increase circulating estrogen levels. Recent research also indicates that obesity negatively impacts oocytes and the endometrium. Ongoing research at UCLA is exploring how high levels of free fatty acids associated with obesity may impact oocyte quality.

A diet and exercise program that results in a loss of 5 percent of total body weight is the first-line treatment for obesity-related infertility. A reduction in BMI may improve ovulation and maximize pregnancy outcomes by lowering circulating free fatty acids and normalizing glucose metabolism. Ideally, BMI at the time of conception should be under 35.

Adjunctive medical therapy for obesity is indicated should lifestyle changes fail to enable pregnancy. Medications to normalize insulin may improve fecundity, and bariatric surgery may be appropriate for patients with BMI of 40 or greater. UCLA offers a multidisciplinary, team-based treatment approach to ensure that patients are referred to the appropriate specialists for preconception counseling, lifestyle changes or bariatric surgery.

For fertility patients ages 39 and older who may not wish to wait for six months or more to complete a weight-loss program, a full range of treatments, including in vitro fertilization, can be considered.

Minimizing the risks of obesity

Obese women who do become pregnant are at higher risk for adverse outcomes, including miscarriage. Maternal complications include preeclampsia, gestational diabetes, hypertension, stillbirth and cesarean section. Neonatal complications of obesity in pregnancy include large-for-gestational-age, shoulder dystocia, meconium aspiration and fetal distress.

Recent research also suggests that maternal obesity causes epigenetic changes that increase the risk of future obesity and obesity-related diseases, such as diabetes, in the offspring. Fetal programming of adult diseases is a major area of investigation at UCLA.

While obesity itself is not an indication of a high-risk pregnancy, women with obesity are carefully monitored during pregnancy to assess blood sugar, blood pressure and fetal growth. Obese pregnant women receive specific counseling on appropriate weight gain in pregnancy that adheres to guidelines established by the Institute of Medicine in 2009. Supportive programs are available to help pregnant women establish a safe exercise program and adhere to a healthy diet.

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