

Obesity Does Not Alter Success of Insemination

BY DAMIAN McNAMARA

FROM THE ANNUAL MEETING OF
THE AMERICAN SOCIETY FOR
REPRODUCTIVE MEDICINE

ORLANDO – A first of its kind study shows maternal weight does not play a role in pregnancy success via intrauterine insemination, in stark contrast to multiple trials that indicate as obesity increases, the chances for a woman to conceive via in vitro fertilization drop.

“We found no association between BMI [body mass index] and fecundability in women undergoing insemination,” Dr. LaTasha B. Craig said.

She and her associates reviewed 1,120 cycles of intrauterine insemination (IUI), including donor inseminations, performed July 2007 to June 2010 at a University of Oklahoma, Oklahoma City, infertility clinic. They noted the maternal body mass in-



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DR. CRAIG

dex within 6 months of initiation of IUI and classified 403 women according to National Institutes of Health BMI categories.

There were 152 pregnancies. The pregnancy rate was 7% in the underweight group; 12% in the normal weight group; 15% among overweight women; 11% in the obesity class I group; 12% in the class II group; and 20% in the class III obese women. None of these differences were statistically significant.

“Obesity is increasing and, I dare say, it’s pandemic now. There is probably no better place to see it in the United States now than Oklahoma,” Dr. Craig said. According to 2010 data, one-third of the state population was obese with a BMI greater than 30 kg/m² and another third was overweight with a BMI between 25 and 30 kg/m². “This is important because they are coming into our clinics ... and I cannot choose to treat only one-third of the population.”

“We need information to counsel [patients] on what the realistic expectations are with obesity,” Dr. Craig said at the meeting. “It turns out there is not much information about obesity and insemination outside the PCOS [polycystic ovarian syndrome] population.”

The effect of obesity in the study remained nonsignificant after researchers adjusted for patient age, total motile sperm count, duration of infertility, diagnosis, source of sperm, and use of fertility medication. In addition, increased BMI had no significant impact when comparing subpopulations with and without ovulatory dysfunction.

“This is the first study evaluating effects of BMI on all women undergoing insemination in a real world scenario,

regardless of diagnosis or medication used,” said Dr. Craig, an ob.gyn. specializing in reproductive endocrinology and fertility at the University of Oklahoma.

The current findings add to the limited and conflicting literature. One study, for example, found a negative effect with increasing body weight. Researchers assessed 1,144 ovulatory, married women undergoing superovulation treatment and donor insemination (Arch. Androl.

2002;48:323-7). Pregnancy rates were significantly lower as BMI increased. For example, 42% of women with a BMI of 20-24 kg/m² achieved a pregnancy, compared with 21% of women with a BMI of 28-36 kg/m².

Another study looked at insemination of 333 ovulatory women and, similar to the current study, found no association between BMI and fecundity (Fert. Steril. 2006;86:642-6).

“To make things more confusing, Wang et al. from Australia found a positive effect of being overweight or obese in a study of 2,040 women undergoing controlled ovarian hyperstimulation and IUI,” Dr. Craig said (Fert. Ster. 2004;81:1710-2).

In contrast, there is more of a consensus among recent trials that increased BMI is associated with decreased pregnancy rates through in vitro fertilization. For example, in a study of 45,163 assisted re-

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†This encompasses 85% of US household incomes. Source: 2009 US census data.

References: 1. Facts About Current Good Manufacturing Practices (cGMPs). Available at: <http://www.fda.gov/Drugs/DevelopmentApprovalProcess/Manufacturing/ucm169105.htm>. Accessed July 22, 2011. 2. CFR - Code of Federal Regulations Title 21. Available at: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcr/CFRSearch.cfm?CFRPart=211&showFR=1&subpartNode=21.4.0.1.1.11.6>. Accessed July 22, 2011.

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Please see next page for important safety information.

production embryo transfers in 2007, increases in obesity were associated with lower clinical pregnancy and live birth weights (Human Reprod. 2011;26:245-52). In another example, for each increase in BMI point over 29 kg/m², the chance of pregnancy through assisted reproductive technology (ART) fell by 4%, compared with normal weight and overweight women in a population of subfertile, ovulatory women in this study of 3,029 consecutive subfertile couples (Human Reprod. 2008;23:234-8).

"My personal belief on our differences, compared [with] the ART data, is ART is

not physiologically normal. Superphysiologic estradiol levels and what we do with ovarian stimulation may exacerbate the metabolic abnormalities that come out with obesity," Dr. Craig said, "and/or we are getting these patients pregnant with less-aggressive treatment."

Participants in the current study underwent a mean of 2.6 IUI cycles and their mean age was 33 years. There were multiple reasons for insemination, but male factor infertility was the leading indication.

During the Q & A session, the moderator asked why the lower pregnancy rate in the underweight BMI group and nearly

double rate in the highest weight category were not statistically significant. Dr. Craig explained that these two categories had relatively fewer cycles (29 and 46, respectively), compared with the other groups.

A large cohort, adjustment for multiple confounders, and inclusion of almost all insemination cycles over 3 years were strengths of the study, Dr. Craig said. Only 49 cycles were excluded because the charts lacked BMI data. The retrospective design and an end point of fecundability rather than fecundity were limitations.

Fecundability is the ability or chance to

conceive within a given cycle. Fecundity is chance of getting pregnant and delivering a child per cycle. So fecundity is a bit lower than fecundability because some patients will miscarry, rather than deliver, Dr. Craig said in a later interview. In the future, she would like to assess fecundity and the pregnancy rate per woman.

Dr. Craig said that she had no relevant financial disclosures.

To view a video of Dr. Craig, use the QR code or go to www.obgynnews.com.



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