



The effect of female body mass index on in vitro fertilization cycle outcomes

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To the Editor:

We read with interest the study by Kudesia et al. [1], who aimed to retrospectively explore the impact of female body mass index (BMI) on IVF cycle outcomes. BMI above the normal range was found to be an independent negative prognostic factor for multiple outcomes, including cycle cancellation, oocyte and embryo counts, and ongoing clinical pregnancy. Moreover, these negative outcomes were most profound in women with class-II/III obesity, ovulatory dysfunction, or PCOS.

They also stated that to their knowledge, no prior studies have investigated all diagnostic subgroups with regard to the impact of BMI. Unfortunately, a study challenging the relationship between obesity and a subgroup of patients with poor ovarian response went unnoticed [2]. While examining whether BMI may influence IVF outcome, it was demonstrated that obese patients had a significantly higher prevalence of poor responders as compared to non-obese patients, required longer stimulation, used significantly more gonadotropin ampoules, had lower peak estradiol levels and showed significantly lower fertilization rate. Moreover, obese poor responder patients achieved a significantly lower pregnancy rate compared to non-obese poor responders.

After excluding the poor responders, a second analysis of the data revealed the same detrimental effects of obesity on controlled ovarian hyperstimulation variables (as for the

whole study group), but with no significant impact on clinical pregnancy rate. Furthermore, in the poor responders group, while increased BMI had a significant negative impact on clinical pregnancy rate with a minimal non-significant impact on stimulation variables, non-obese patients achieved pregnancy rates comparable to normal responders [2]. These findings suggest a detrimental effect of obesity on oocytes or embryos, with a consequent decrease in implantation potential.

It was therefore speculated that although obesity increases the likelihood of poor response to controlled ovarian hyperstimulation for IVF, if an obese patient responds normally to ovulation induction with the recruitment of a reasonable number of healthy fertilizable oocytes, she might achieve a comparable conception rate, as for the non-obese patients.

References

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