

IFFS/JSRM International Meeting 2015

Yokohama, Japan. 2015.04.26-29

Is high BMI > 25 really detrimental to reproduction?

Hiroshi Matsumoto, Mamoru Ida, Satoshi Mizuno, Aisaku Fukuda, Yoshiharu Morimoto

(Introduction)

Detrimental influence of overweight on reproduction such as embryonic development, pregnancy rate and take home baby rate has been reported. On the other hand, there is a recent report that obesity is associated with lower odds of diminished ovarian reserve. In the present study, influence of overweight on ovarian reserve and function in different age groups was investigated.

(Methods)

Total of 3433 infertile women at our clinic were investigated. They were divided into 4 age groups (A:25-29, B:30-34, C:35-39, D:40-44). Average anti-Mullerian hormone:AMH (ng/ml), antral follicle count:AFC, basal FSH (mIU/ml) and percentage of the patient with $FSH \geq 10$ was compared between normal weight ($BMI < 25$) and overweight ($BMI \geq 25$) in each age group.

(Results)

AMH levels of normal weight and overweight groups were as follows. A: 6.0 ± 4.3 and 7.9 ± 4.6 ($p < 0.05$). B: 5.0 ± 4.2 and 6.1 ± 6.6 ($p < 0.05$). C: 3.1 ± 3.0 and 3.4 ± 3.1 . D: 1.6 ± 1.8 and 1.6 ± 1.5 . AFCs were as follows. A: 6.3 ± 2.7 and 7.4 ± 2.5 ($p < 0.05$). B: 5.4 ± 2.5 and 5.6 ± 2.6 . C: 4.1 ± 2.3 and 4.6 ± 2.6 . D: 3.0 ± 1.9 and 2.9 ± 1.7 . Basal FSH levels were as follows. A: 8.0 ± 10.1 and 5.7 ± 1.3 ($p < 0.01$). B: 7.7 ± 6.4 and 6.2 ± 1.3 ($p < 0.01$). C: 9.7 ± 11.9 and 7.0 ± 3.0 ($p < 0.01$). D: 11.3 ± 12.1 and 9.1 ± 5.1 ($p < 0.01$). Percentages of the patient with $FSH \geq 10$ were as follows. A: 7.6 and 0. B: 9.4 and 0 ($p < 0.05$). C: 17.9 and 9.9 ($p < 0.05$). D: 35.6 and 22.2 ($p = 0.06$).

(Conclusions)

AMH levels and AFCs in overweight patients were significantly higher than normal weight only in the younger age groups. It may suggest that population of PCO patients in overweight group is higher. Basal FSH levels in overweight group were lower in any age groups. It suggests that overweight plays a positive role in preservation of ovarian function.