

Fewer metaphase II oocytes after stimulation with recombinant FSH than urinary FSH in the pituitary down-regulation regimen

Kuo-Chung Lan, Yi-Chi Lin, Fu-Jen Huang, Fu-Tsai Kung, Chin-Hsiung Hsieh, Shih Young Chang

Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital,
Kaohsiung, Taiwan

BACKGROUND: Despite the widespread use of follicle-stimulating hormone (FSH) in controlled ovarian hyperstimulation (COH), few studies have focused on the comparison of nuclear maturity of denuded oocytes resulting from either the recombinant FSH (rFSH) or urinary FSH (uFSH).

The objectives of the present study were to determine whether oocyte nuclear maturity differs when rFSH or uFSH is used for COH, and if the outcome of intracytoplasmic sperm injection (ICSI) is thus affected.

DESIGN: Retrospective cohort study.

Patients: A total of 216 ICSI patients underwent 264 consecutive cycles in our assisted reproductive technology (ART) program between January 1998 and May 2001.

INTERVENTION(S): Pituitary down-regulation and uFSH or rFSH were used for ovarian stimulation.

MAIN OUTCOME MEASURE(S): Follicular development, serum estradiol, metaphase II oocytes, fertilization rate, and embryo quality.

RESULT(S): rFSH group has statistically fewer number of follicle ≥ 16 mm in diameter on the day of hCG administration (3.1 ± 2.2 vs. 3.9 ± 2.6 , $P=0.001$), fewer number of oocytes retrieved (5.7 ± 3.4 vs. 7.3 ± 4.7 , $P=0.004$), and lower number and proportion of oocytes in metaphase II (3.6 ± 2.3 vs. 5.6 ± 3.2 , 62.7% vs. 76.5%, $P=0.047$, respectively) when comparing rFSH and uFSH groups.

CONCLUSION(S): There were significantly fewer metaphase II oocytes after stimulation with rFSH compared to uFSH