Objective: to analyze the results of ICSI cycles according to the protocols of ovarian stimulation in normal responders patients

Materials and methods:
It is an analytic retrospective study in the Unit of Reproductive Medicine, Department of Obstetrics and Gynecology University Hospital Farhat Hached Sousse (Tunisia) over a period of 4 years (January 2008 - December 2011). We included 1000 cycles of ICSI where all the women were younger than 35 years and had the criteria of normal responders. We analyzed the influence of stimulation protocols on oocyte quality, the quality of the endometrium and embryo quality. Statistical analysis was made by means of the SPSS 18.0 software.

Results:
We used three stimulation protocols: long agonist (AL, n = 566), short-agonist (AC, n = 316) and antagonist (Ant, n = 118). The average initial estradiol levels were similar regardless of the protocol used: 77.8 pg/ml in the case of AL, 69.3 pg/ml in the case of AC and 69.7 pg/ml in the case of Ant (p = 0.23). The results in case of AC protocol is characterized by a day trip oocyte high estradiol levels: 1343.27 ± 2729.7 pg/ml (AL), 3046.6 ± 1408 pg/ml (AC) and 2546.4 ± 1206.7 (Ant) with a significant difference p < 0.01, by endometrial thickness Lowest day trip: 10.5 ± 1.95 mm (AL), 9.95 ± 1.8 mm (AC) and 10.2 ± 1.85 mm (Ant), p < 0.01 and a total number of oocytes aspirated lowest: 9.13 ± 3.37 (AL), 8.55 ± 3.25 (AC) and 9.03 ± 3.28 (Ant), p = 0.046. In contrast, there was no influence on the stimulation protocol the number of mature oocytes (p = 0.17), the maturation rate (p = 0.69), the segmentation ratio (p = 0.52), the total number of embryos obtained (p = 0.17) and the I-type embryo rate (0.24).

Discussion and conclusion:
The long agonist protocol became the best protocol of ovarian stimulation to recommend as first-line therapy abnormal responders patients.