Objective: To investigate the correlation of antral follicle count (DAFC) on day 1 of ovarian stimulation and AMH (tested with Gen II KIT) in the number of oocytes retrieved in GnRH antagonist treatment cycles.

Design: Observational cohort study.

Setting: IVF unit in a Teaching Hospital.

Patients: 274 patients undergoing IVF/ICSI treatment underwent ovarian stimulation with rFSH or urinary FSH on day 2 or 3 of menses. In a novel regimen, GnRH antagonist was administered on day 6 until day of ovulation trigger with Ovitrelle.

Main outcome measure: Number of oocytes obtained from ovarian stimulation.

Results: The median (range) of age of women and oocytes retrieved were 33(22-42) years and 12(2-32) respectively. The median (range) of AMH and DAFC on the first day of ovarian stimulation were 25.7(4-174) pmol/l and 13(4-35) respectively. There was a significant correlation of DAFC (P<0.0002), AMH (p<0.001) and total gonadotrophin dose (P<0.006) [median (range); 1650(1025-3725)] IU with the number of oocytes retrieved. There was no significant correlation between age (P=0.1) or initial starting gonadotrophin dose (P=0.1) and number of oocytes retrieved.

Conclusions: This study demonstrated that the DAFC, AMH and total dose of gonadotrophins administered correlates significantly with the ovarian response in our novel GnRH antagonist regimen.