Effect of clinical and semen characteristics on efficacy of ovulatory stimulation in patients undergoing intrauterine insemination. IBN Hendin, JJ Hallak, D Nelson, T Falcone, JM Goldberg, AJ Thomas Jr., and A Agarwal. Andrology Research and Clinical Laboratories, Department of Urology, Department of Biostatistics and Epidemiology, and Department of Gynecology and Obstetrics, The Cleveland Clinic Foundation, Cleveland, OH.

Objectives: Treatment outcomes after intrauterine insemination (IUI) are affected by clinical patient characteristics, as well as semen quality. We sought to clarify the relative efficacy of ovulatory stimulation (OS) among different patient subsets by stratifying patients according to their clinical and semen "risk factors" for successful IUI outcomes.

Design: A retrospective study of 533 patients who underwent 1605 cycles of IUI over 3 years at a single institution.

Materials and Methods: This study was approved by the Institutional Review Board. Charts of patients who underwent IUI between January 1993 and December 1995 at our tertiary care center were reviewed regarding clinical, semen, and treatment variables. Ovulatory stimulation was defined as either clomiphene citrate or gonadotrophin administration. Data analysis was performed in a stepwise multivariate fashion to identify all significant variables. Life tables were constructed for the entire study group and for significant subset populations based on the analysis; cumulative pregnancy rates were calculated using Kaplan-Meier methods. Logistic regression estimates of success rates were individually computed for each relevant variable and compared between stimulated and unstimulated cycles. The alpha level was set at P<0.05.

Results: Three pre-treatment variables were associated with observed live birth rate success: age <37.7 years at treatment (P = 0.02), no history of pelvic pathology (P = 0.0001), and post-wash sperm motility >40% (P = 0.006). Patients who underwent OS had significantly higher pregnancy rates than those who did not (P = 0.02). Patients with no clinical risk factors had significantly higher pregnancy rates with OS (P = 0.04), and were the only group in which OS significantly increased the pregnancy rate (Figure).

Conclusions: Ovulatory stimulation in conjunction with IUI clearly enhances pregnancy rates among a select group of patients: young patients with normal pelvic anatomy and good post-wash semen quality doubled their per-cycle pregnancy rates. However, the benefits are unclear among patients affected by multiple risk factors. These patients should be counselled that their chance for success with IUI is limited and that OS may not significantly improve their chances.