

OPTIMIZING ASSISTED REPRODUCTIVE TECHNOLOGY: THE PERFECT TIMING FOR GONADOTROPIN ADDITION IN CORIFOLLITROPIN ALFA PROTOCOLS

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INTRODUCTION

Corifollitropin Alfa (CFA), a long-acting recombinant follicle-stimulating hormone (FSH), supports follicular growth for up to one week following a single administration. Nevertheless, supplementary gonadotropins, such as recombinant FSH or human menopausal gonadotropin (hMG), are frequently required to achieve optimal follicular maturation. The optimal timing for initiating this additional gonadotropin support remains uncertain, with conventional practices typically starting supplementation on day 8 post-CFA injection. Clinical concerns about CFA's declining effectiveness following its initial peak serum concentration have prompted an earlier supplementation strategy, despite limited evidence supporting its advantage.

AIM

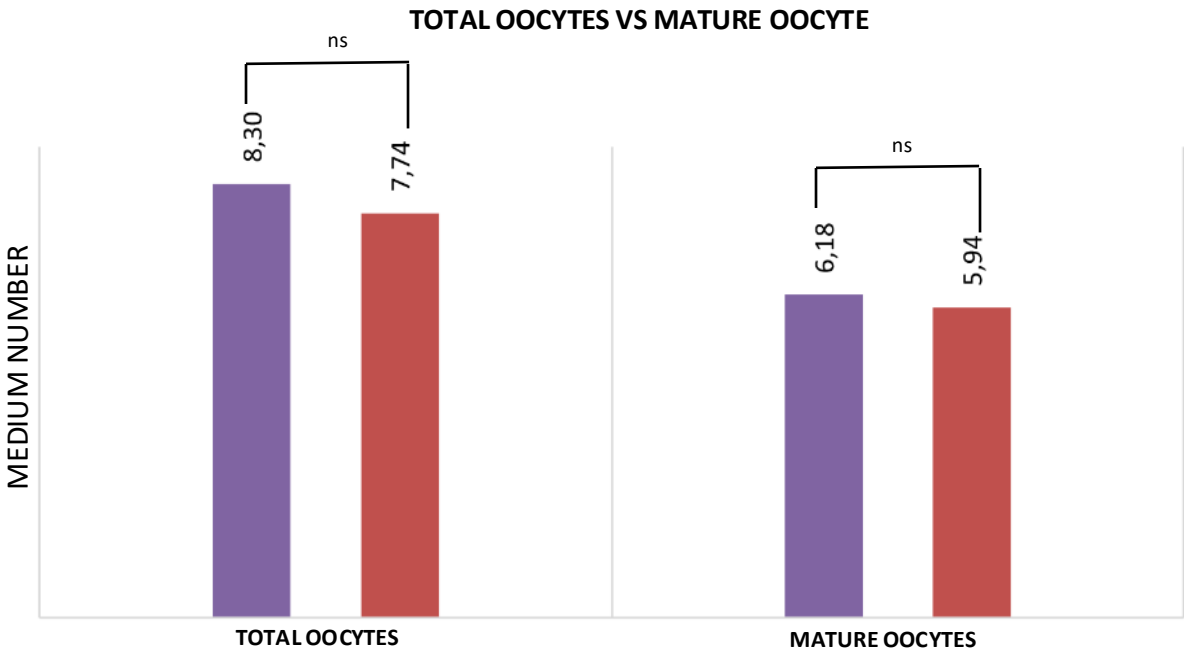
This study aimed to assess whether initiating supplemental gonadotropins earlier (day 4-7 after CFA administration) improves the outcomes of controlled ovarian stimulation in terms of the total and mature (MII) oocytes retrieved, compared to the standard approach of supplementation beginning on day 8.

RESULTS

This retrospective analysis involved 653 assisted reproductive technology (ART) cycles conducted from July 2018 to January 2025. Participants were divided into two groups: Group 1 (early gonadotropin supplementation, days 4-7 post-CFA; n=534 cycles) and Group 2 (standard supplementation starting day 8 post-CFA; n=119 cycles). Baseline characteristics, including age, weight, and antral follicle count (AFC), were comparable between the groups. No significant difference was found in the mean number of total oocytes retrieved (Group 1: 8.3 ± 7.0 vs Group 2: 7.7 ± 7.7; adjusted difference [AD]: 0.18, 95% CI: -0.88 to 1.23; p=0.74) or in the mean number of mature MII oocytes (Group 1: 6.1 ± 5.6 vs Group 2: 5.9 ± 6.4; AD: -0.10, 95% CI: -0.99 to 0.78; p=0.81).

CONCLUSIONS

Early initiation of gonadotropin supplementation after CFA administration does not significantly enhance ovarian stimulation outcomes in terms of total and mature oocytes retrieved. Given these findings and the associated increased treatment costs with early supplementation, delaying additional gonadotropins until day 8 appears justified. This study supports a more evidence-based and cost-effective approach, potentially reducing unnecessary clinical interventions.



VARIABLES	GROUP 1	GROUP 2	P-VALUE
NUMBER OF CYCLES	534	119	n.a.
AGE	36.36 ± 4.91	37.11 ± 4.47	0.11
HEIGHT	165.02 ± 5.87	166.50 ± 5.81	0.01
WEIGHT	59.87 ± 10.02	59.64 ± 8.28	0.79
BMI	21.98 ± 3.51	21.47 ± 2.42	0.06
AFC	9.76 ± 6.13	9.43 ± 6.50	0.61

AFC, Antral Follicle Counts; n.a. not applicable