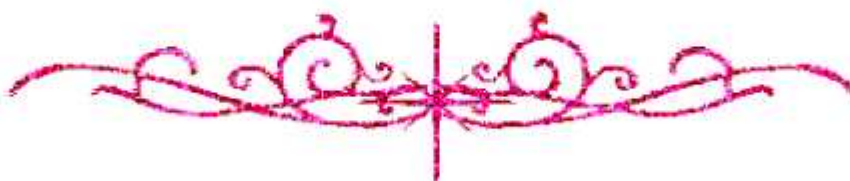


# بسم الله الرحمن الرحيم





# شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم





# جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
على هذه الأقراص المدمجة قد أعدت دون أية تغييرات



## يجب أن

تحتفظ هذه الأقراص المدمجة بعيدا عن الغبار



**Comparison between Agonist trigger with HCG  
luteal phase supplementation vs HCG trigger with  
progesterone luteal phase supplementation in  
Antagonist Controlled hyperstimulation Cycle  
regarding clinical pregnancy rate**

**Thesis**

*Submitted for the partial fulfillment of the M.D degree in  
Obstetrics and Gynecology*

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**2021**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لسبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٢٢



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 *Sherif Mohamed Yehia Soliman*

# Comparison between Agonist trigger with HCG luteal phase supplementation vs HCG trigger with progesterone luteal phase supplementation in Antagonist Controlled hyperstimulation Cycle regarding clinical pregnancy rate

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Ain Shams University Faculty of Medicine department of Obstetrics and Gynaecology 2021

For the last two decades, exogenous progesterone administration has been used as luteal phase support (LPS) in connection with controlled ovarian stimulation combined with use of the human chorionic gonadotropin (hCG) trigger for the final maturation of follicles. The introduction of the GnRHa trigger to induce ovulation showed that exogenous progesterone administration without hCG supplementation was insufficient to obtain satisfactory pregnancy rates. This has prompted development of alternative strategies for LPS. Augmenting the local endogenous production of progesterone by the multiple corpora lutea has been one focus with emphasis on one hand to avoid development of ovarian hyper-stimulation syndrome and, on the other hand, to provide adequate levels of progesterone to sustain implantation.

The present study evaluates the use of micro-dose hCG for LPS support and examines the comparison between conventional HCG trigger and progesterone luteal phase support vs Agonist trigger and HCG microdose luteal phase support as regards to pregnancy rate.

**Methods :** 100 patients were recruited for this trial. Cases with Polycystic ovaries were excluded from the study. The study was approved by Ethical committee of Ain Shams university. Patients received Gonal-F (Merck Serono S.p.A., Via delle Magnolie 15, I-70026 Modugno (Bari), Italy.) in a dose ranging between 150–300 IU for stimulation and the dose was adjusted according to response starting day 6. Premature LH surge was prevented with 0.25 mg of a GnRH antagonist (Cetrotide; Merck international) starting on day 6, when two or more follicles reach a size of 18–20 mm, patients were randomized into 2 groups of 50 each. Trigger of ovulation was done by a single dose of 0.2 mg triptorelin (Decapeptyl®ferring Pharmaceutical company, Germany) and luteal phase support with daily 125 IU HCG injections in Group 1. Group 2 received A single dose of HCG 10000 IU was given followed by progesterone supplementation with 100mg IM progesterone (Prontogest® IBSA Swisserland). 2 Embryo were transferred and an ultrasound at 4 weeks after embryo transfer for cases with positive pregnancy test. As regards to clinical pregnancy group 1 had 28 of the 50 (56%) Positive clinical pregnancy while control was 26 of the 50 (52%), the difference was not statistically significant ( $P>0.68$ ). No cases of moderate or severe ovarian hyperstimulation were observed during the study. To conclude, Agonist trigger combined with microdose HCG had a comparable pregnancy rate result to HCG trigger and conventional progesterone support for luteal support without increasing the risk of ovarian hyper stimulation.

**Key words:** Agonist trigger, HCG luteal phase supplementation, Antagonist Controlled hyperstimulation Cycle, clinical pregnancy rate

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## List of Abbreviations

<i>Abbr.</i>	<i>Full-term</i>
<b>ART</b>	: Assisted Reproductive Technologies
<b>ART</b>	: Assisted reproductive treatment
<b>CL</b>	: Corpus luteum
<b>COH</b>	: Controlled Ovulation hyper stimulation
<b>COS</b>	: Controlled ovarian stimulation
<b>CPR</b>	: Clinical pregnancy rate
<b>DR</b>	: Delivery Rate
<b>ET</b>	: Endometrial thickness, Embryo transfer
<b>FSH</b>	: Follicle-stimulating hormone
<b>GnRH</b>	: Gonadotropin-releasing hormone
<b>GnRH-ant</b>	: GnRH antagonists
<b>hCG</b>	: Human chorionic gonadotropin
<b>hCG</b>	: Human chorionic gonadotropin
<b>hMG</b>	: Human menopausal gonadotropin
<b>HMG</b>	: Human menopausal gonadotropin
<b>ICSI</b>	: Intracytoplasmic sperm injection
<b>ICSI</b>	: Intra-cytoplasmic sperm injection
<b>IGF</b>	: Insulin-like growth factor
<b>IM</b>	: Intramuscular
<b>IVF</b>	: In vitro fertilization
<b>IVF</b>	: In-vitro fertilization

<b>LH</b>	: Luteinizing hormone
<b>LIF</b>	: Leukemia inhibitory factor
<b>LPS</b>	: Luteal phase support
<b>MPA</b>	: Medroxyprogesterone acetate
<b>OHSS</b>	: Ovarian hyperstimulation syndrome
<b>OR</b>	: Oocyte retrieval
<b>P</b>	: Progesterone
<b>PCOS</b>	: Polycystic ovary syndrome
<b>pFSH</b>	: Purified' FSH
<b>PKA</b>	: Protein kinase A
<b>rhFSH</b>	: Recombinant human FSH
<b>rhLH</b>	: Recombinant human LH
<b>SC</b>	: Subcutaneous
<b>SPSS</b>	: Statistical package for Social Science
<b>UC</b>	: Uterine contractions
<b>VEGF</b>	: Vascular endothelial growth factor

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