

# Early initiation of gonadotropin-releasing hormone (GnRH) antagonist during assisted reproductive technology (ART)

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		<input type="checkbox"/> Protocol
<b>Registration date</b> 26/08/2011	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 14/02/2017	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

In vitro fertilisation (IVF) is an assisted reproductive technology (ART) technique to help people with fertility problems to have a baby. Patients undergoing IVF receive various treatments to stimulate the release of multiple eggs from the ovaries. Sometimes a type of medication called gonadotropin-releasing hormone (GnRH) antagonists are used to prevent patients from releasing the eggs too early i.e., before the time of the egg pickup procedure. The GnRH antagonist is routinely given on day five of ovarian stimulation treatment, or can be administered before or after day five. One particular clinical condition in which the use of GnRH antagonists has been reported to be beneficial is in patients with polycystic ovarian syndrome (PCOS), where a sex hormone imbalance leads to the growth of benign masses on the ovaries. In these patients the use of GnRH antagonists reduced the incidence of severe ovarian hyperstimulation syndrome (OHSS), where too many eggs develop in the ovaries, making them very large and painful. The aim of this study is to compare two treatment schedules used in women with PCOS during IVF. Both treatment schedules are used in routine clinical practice. However, the choice between the two is based on the judgment of the treating physician because there are no studies that have looked at whether one schedule is better than the other.

### Who can participate?

Women aged 18-40 with PCOS undergoing ART

### What does the study involve?

Participants are randomly allocated into one of two groups. One group receives GnRH antagonist on day one, while the other group receives GnRH antagonist on day five of ovarian stimulation. The embryo implantation rate, pregnancy rate, delivery rate, miscarriage rate, and the incidence of severe OHSS are compared between the two groups.

### What are the possible benefits and risks of participating?

There are no direct anticipated benefits from participating in the study. However, participation may help in the advancement of science by finding out which treatment schedule is superior to the other or to find out that the two schedules are similarly successful. There is no specific risk

of participating in the study. Both schedules have been used in clinical practice with success. There are other potential risks and complications associated with the clinical practice of ovarian stimulation and IVF. Such risks include, but are not limited to, the risk of anaesthetic, bleeding, which may require further surgery to control, infection, multiple pregnancy, higher incidence of miscarriage and ectopic pregnancy, and higher incidence of congenital malformation (birth defects) and chromosomal (genetic) abnormalities in babies born as a result of IVF. There is also a possible link between the use of fertility medication and ovarian cancer. Patients who use fertility medications are at increased risk of a condition called severe hyperstimulation syndrome, which could result in serious complications such as blood clot formation, kidney failure, fluid in the peritoneal cavity and around the lungs, and ovarian twisting, which would require surgery to correct.

Where is the study run from?  
Hurley Medical Center (USA)

When is the study starting and how long is it expected to run for?  
January 2006 to December 2009

Who is funding the study?  
IVF Michigan, P.C. (USA)

Who is the main contact?  
Dr Mostafa Abuzeid  
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## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

## Study information

### Scientific Title

Controlled ovarian hyperstimulation with long versus conventional protocol of gonadotropin-releasing hormone (GnRH) antagonist in women with polycystic ovarian disease (PCOD) undergoing assisted reproduction: a randomized controlled trial

### Study objectives

The purpose of this study was to test the hypothesis that in women with polycystic ovarian syndrome (PCOS), early initiation of GnRH-ant. (day 1 of ovarian stimulation) is associated with higher implantation rate compared to conventional GnRH-antagonist protocol (starting on day 5 of ovarian stimulation).

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Institutional Review Board at Hurley Medical Center, 31/10/2006, ref: 195632-1

### Study design

Single-center physician-blinded prospective randomized trial

### Primary study design

Interventional

### Secondary study design

Randomised controlled trial

### Study setting(s)

Hospital

### Study type(s)

Treatment

### Participant information sheet

Not available in web format, please use the contact details to request a patient information sheet

### Health condition(s) or problem(s) studied

Polycystic ovarian syndrome

### Interventions

Controlled ovarian stimulation (COS) for intracytoplasmic sperm aspiration (ICSI) procedures in infertile patients with polycystic ovarian syndrome (PCOS). Two groups were studied.

The study group (group 1) received GnRH- antagonist subcutaneously (SC) starting on the same day on the beginning of COS using SC recombinant follicle stimulating hormone(r-FSH) 150-225 IU daily.

The control group (group 2) received GnRH- antagonist SC starting on treatment day 5 of SC r-FSH (150 -225 IU daily).

The implantation rate, clinical pregnancy rate, delivery rate, miscarriage rate, and the incidence of severe ovarian hyperstimulation syndrome between the two groups were compared.

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

Recombinant follicle stimulating hormone

**Primary outcome measure**

Implantation rates evaluated at the end of the study

**Secondary outcome measures**

1. Clinical pregnancy, delivery, and miscarriage rates
2. The incidence of severe ovarian hyperstimulation syndrome (OHSS)

**Overall study start date**

01/01/2006

**Completion date**

30/12/2009

**Eligibility****Key inclusion criteria**

1. Women (age between 18-40 years) with PCOS, undergoing assisted reproductive technology (ART). PCOS was defined according to Rotterdam criteria at least 2 of the following 3 features:
  - 1.1. Oligo and/or anovulation
  - 1.2. Clinical and/or biochemical signs of hyperandrogenism and
  - 1.3. Polycystic ovary on ultrasound scan (The Rotterdam ESHRE/ASRM-sponsored PCOS consensus workshop group 2004)

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Upper age limit**

40 Years

**Sex**

Female

**Target number of participants**

140

**Key exclusion criteria**

1. Hypothyroidism
2. Hyperprolactinemia
3. Non-classical form of congenital adrenal hyperplasia
4. Cushings syndrome
5. Androgen-secreting tumors

**Date of first enrolment**

01/01/2006

**Date of final enrolment**

30/12/2009

**Locations****Countries of recruitment**

United States of America

**Study participating centre**

Hurley Medical Center

Flint

United States of America

48503

**Sponsor information****Organisation**

Hurley Medical Center (USA)

**Sponsor details**

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**Sponsor type**

Hospital/treatment centre

**ROR**

<https://ror.org/034npj057>

## **Funder(s)**

**Funder type**

Hospital/treatment centre

**Funder Name**

IVF Michigan, P.C. (USA)

## **Results and Publications**

**Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date**

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**

Not provided at time of registration