

Polycystic Ovary

By and large if tried naturally, 80 to 90 % of women are able to become pregnant within one year. But even after one year if the woman is not able to conceive, then this condition is called infertility. Out of 100% cases of these type of infertility, around 40% women are responsible like the men who too are responsible in another 40% of cases, only in remaining 20% of cases men and women both are responsible. Due to newer tests and methods of investigations and better treatment facilities available today there is definitely a new ray of hope seen in horizon today.

How Does Pregnancy Takes Place ?

There is regular production of lacs of sperm takes place from the testis of men which at the time of intercourse is released in vagina and it travels to the cervix & Uterus of woman through vagina.

In the lower abdominal part on both the sides of Uterus there are fallopian tubes. Under the influence of hormones FSH & LH from pituitary every month one egg develops in any one of the ovary, this egg is released from the ovary of the female around 14th day of menstrual cycle and enters the fallopian tubes which are attached to the Uterus. Under the influence of various hormones secreted endometrium develops and becomes ready to accept the fertilized egg.

During this period if intercourse happens then the sperm enters vagina & reaches the cervix. It is engulfed within secretion namely cervical mucus which helps it to travel into the Uterus. Through Uterus sperm travel to fallopian tubes and fertilizes the egg and thus converts it into the embryo. Thereafter within next five days embryo reaches the Uterus and there it is implanted. Later this develops as pregnancy.

If for some reason pregnancy does not takes place, the endometrium get cleared in due course and then the monthly period comes and after that again the process starts next month.

Why Does Infertility Takes Place ?

If there is difficulty at any above mentioned stages of conception occurs, couple will face infertility.

Main reasons of infertility in the women :

- The formation of egg does not takes place, it may be produced in irregular manner or the quality of egg may not be proper.
- The Fallopian tubes may be either closed or in damaged condition, they may not be able to carry the female egg properly.
- The endometrium may not be able to receive the fertilized egg or the pregnancy.
- Cervix may not able to carry the sperm properly.

Main reasons of infertility in men :

- Either the production of sperm may not be taking place or it may not be reaching or there may be total lack of sperm in semen (Azoospermia).
- The quantity of sperm may not be sufficient or may be the motility of sperm may not be good, the percentage of defective sperms may be very high.
- During intercourse there may be difficulty in ejaculation due to mental or physical reasons.
- Total quantity of semen during intercourse may be very less.
- In certain cases all reports may be normal but even then pregnancy does not occur, then these cases are called "unexplained infertility".

Treatment

The main aim for treatment of infertility is to find out various responsible factors and treat them all effectively.

WHAT IS THE POLYCYSTIC OVARY OR PCO

- Poly - More than one
- Cyst - Any Cyst filled with liquid
- Ovary - Female Egg producing organ

When Ovary has many cysts filled with fluid, it is called Polycystic Ovary in short is called PCO.

By and large, the women with this type of ovary do not have any complaints. But at times some women do complain about various types of difficulties which is known as polycystic ovarian syndrome and when they are very troublesome, then this type of syndrome is called "Stein leventhal syndrome".

In lower abdomen of female, there are two ovaries situated on either sides of uterus. Every month one egg develops in the follicle of one of ovaries. After development of egg, follicle ruptures & egg is released then follicle gets converted in to corpus luteum.

If pregnancy does not occur corpus luteum dissolves and again in next month this process repeats. This entire process is govern under the influence of various hormones which are secreted from ant. Pituitary i.e. FSH & LH as well as from follicle of ovary i.e. estrogen, progesterone and testosterone.

In PCO usually one ovary has 8-10 follicles of 2 to 8 mm sizes, and they are arranged in a necklace pattern on the outside wall, with thick marrow inside, but at times they are also seen in scattered fashion. For location of the Ovary, normal Ovary and PCO see the figures given on the inside page of this booklet.



Effects

Those women who have PCO their ovaries are of polycystic type since beginning but it can produce symptoms any time.

In women who has PCO, the pattern of hormone production is seen changed which results in infertility and various menstruation difficulties.

Various Symptoms

In women with PCO, symptoms in varying degrees are seen, but all the symptoms are not seen. In some women more than one symptoms are seen.

Irregular Menstruation

Because of irregular production of various hormones, production of follicle also becomes irregular. This is called Anovulation. Since the process of menstruation which is closely linked with the production of egg & follicle, the periods also become irregular. When the menstruation is delayed it is called Oligomenorrhoea and when it stops it is called Amenorrhoea.

For understanding menstrual cycle and secretion of various hormones, see the fig. No. 6 of the inside of the 1st page of this booklet.

Infertility

Due to irregular production of hormones & irregular production of egg the chances of pregnancy are reduced & if there is no egg formation, how pregnancy can occur?

In female ovulation occurs once & at that only there is a one chance of pregnancy every month.

Some times it is seen that in women with regular menstruation but PCOs, have more difficulty in achieving pregnancy than in the women in whom there is no PCO.

Abortion

In women with PCO, hormonal production of LH is seen more. Because of this constantly raised levels of LH, egg is getting maturity at faster pace.

Because of this prematurely mature egg, when the pregnancy occurs, there are more incidents of abortion i.e. 25 to 50%, which is more than twice in a normal woman.

Pimples & Unwanted Hair Growth

In around 48% of women with PCO, production of male hormone i.e. testosterone, is seen on higher level. There may be abnormal hair growth on face, upper lip, hands, legs, breast & back due to higher levels of male sex hormones. The production of these hair are seen as in males.

Obesity

Women with PCOs will have tendency towards more weight.

In women with more weight, percentage of PCO is seen more. If there is more weight then there are all chances that there will be more symptoms of PCO.

In case if the normal weight is maintained then disturbances of various hormones & manifestations due to PCOs can also be minimized or arrested.

Other Effects

In the old age various health problems are seen in more numbers in women with PCO in comparison to the women where there is no PCO,

These symptoms include diabetes, heart problems etc. If there is more weight, there are more chances of various medical problems. For this reason women should be more vigilant to maintain their proper weight.

Diagnosis

In all the women with PCO, do not have all the symptoms. As far as the diagnosis of PCO is concerned it can not be based on test of any single hormone. With the help of transvaginal sonography the diagnosis can be made very easily. This can be done without costly tests of various hormones.

This TVS is done usually on 2nd to 5th day of menstruation, and if the cysts are of 2 to 8 mm of size & are seen in 8 to 10 nos. then this condition is known as PCO. Today the diagnosis of PCO through TVS is accepted as confirmatory tool.

Treatment

If there are no presenting symptoms because of PCOs there is no need of any treatment, but in case of infertility because of PCO then treatment is certainly required. It is very essential to maintain an ideal body weight in women with PCO which has proved very useful.

In PCO the main difficulty is failure of production of egg or irregular production, which is associated with irregular menstruation. For this the main aim of the treatment should be directed in such a manner so that there is regular production of good quality eggs. For this following treatment options are available.

Tablets for Ovulation Induction

Clomiphene citrate is available in tablets of 25mg, 50mg & 100 mg. This drug indirectly helps in increasing the production of FSH through pituitary gland.

Initially the dose of one tablet of 50 mg is given daily for five days. Thereafter on seeing it's effect daily dose of 25mg to 150mg can be given. When menstruation begins, it is calculated as first day of cycle. The tablet should be taken either from day 2, 3, 4 or 5th of cycle & should be continued for at least 5 days.

The decision to revise the dose of tablets depends on effect of drug in achieving good ovulation.

Important Points

- Clomiphene helps in ovulation induction in around 80% of the women. But the pregnancy is achieved in around 50% of the women with Clomiphene. Because of its anti estrogenic effect the sperm carrying fluid becomes thick and hostile.
- Since there is increase of LH due to Clomiphene which adversely affects the fertilization as well as development of pregnancy.
- Some times common side effects are seen such as gastric upsets, headache, vertigo, pain in breast and mood changes etc.

- There are more chances of developing twins or rarely triplets, because of multiple ovulation.
- The child born because of this treatment do not have higher risk of any congenital defects.
- Some times because of production of more eggs, there are chances of developing "hyper stimulation."

The treatment with Clomiphene is simple, effective as well as economical. In case positive results are not seen within six cycles then one should always look for alternative treatment options.

Gonodotrophin Injection

The hormones FSH & LH which are naturally secreted by brain are available as injection form. They have direct effect on ovary in achieving good ovulation & they don't have ant estrogenic effect.

They are available in following forms depending on amount of FSH & LH in gonadotrophin injections.

- HMG Human Menopausal Gonodotrophin :
FSH - LH in equal proportion
- FSH Follicular stimulating Hormones :
FSH 95% , LH 5%
- Purified FSH : FSH 99% and LH <1%
- Recombinant FSH : FSH 99.99%, LH negligible

When menopause occurs, the excretion of gonodotrophins take place in urine of the women. Which is known as urinary gonadotrophin. But because of the difficulty in collection of urine and the presence of protein like impurities, very modern technology has now been invented which is called Recombinant technology. In this method, with the use of Genetic Engineering, DNA coding is done and the cells thus produced are grown in Bioreactors. They secrete pure FSH which is known as Recombinant FSH.

Beginning from 3rd to 5th day after commencement of menstruation, till the follicle achieves adequate size, these injections are regularly given.

Generally dose of 75 to 150 IU daily or alternate days is given. If the Clomiphene along with Gonadotrophin is used, the cost of gonadotrophin can be reduced.

Advantages

- 1 The doses are very well regulated.
- 2 It is effective.
- 3 Anti estrogenic effect is not observed.

Disadvantages

- 1 This is expensive
- 2 There is always a chance of hyper stimulation.
- 3 There are chances of development of multiple pregnancy.

When either Clomiphene or gonadotropin are used for ovulation induction. It is necessary to achieve ovulation at definite & perfect time. For this reason HCG. (Human Chorionic gonadotropin) injection is used which is given in the dose of either 5000 IU or 10,000 IU. Ovulation occurs after 36 to 40 hours of given injection.

Whenever any drug used for ovulation induction the use of TVS and tests of various hormones are done if required for proper control of entire procedure.

Metformin

In some women with PCO, the effect of insulin hormone is reduced. Because of this, there is increased production of insulin as well as blood level of insulin also goes higher. Because of raised level of insulin there is more production of androgen in ovaries which in turn disturbs ovulation & also disturbs menstrual cycle. This is more observed in obese women.

Metformin improves the effect of Insulin on human body cells and thus reduces the amount of insulin in the blood. Because of this, the concentration of androgen is controlled which helps in timely ovulation and regular menstruation.

Metformin tablets are available in the concentration of 250mg, 500 mg and 750 mg and as per the advise of doctor daily dose of 500 mg to 1500 mg is to be taken.

Advantages

- 1 This medicine is economical.
- 2 In certain percentage of women its effect is good.

Disadvantages

- 1 Sometimes as the amount of sugar is reduced in the body, this results in vertigo and uneasiness, they disappear after taking sugar
- 2 This is not effective in all the women.

Operative Laparoscopy

The process of Laparoscopic Ovarian Diathermy or Ovarian Drilling is achieved with the help of this operative procedure by Laparoscope.

Advantages

- 1 This is done only once.
- 2 Since the outer layer of the Ovarian lining is broken it helps in achieving ovulation.
- 3 Much better effect of FSH is seen on Ovary.
- 4 Reduction in LH level is achieved.

It helps in achieving normal menses & ovulation in approx. 80% of women. That can save her from inconvenience of expensive medicines & repeated TVS.

Disadvantages or Danger Points

- 1 Some portion of the ovary is destroyed, which may lead to early menopause.
- 2 Some times there may be danger of adhesion formation .
- 3 It is surgical procedure.

For Figure of Operative Laparoscopy, please refer to the inside of First Page Figure No. 2.

INTRA UTERINE INSEMINATION (IUI)

When combination of ovulation induction with medicine & natural intercourse, to achieve pregnancy, fails then IUI can give better chances of pregnancy.

Husband's semen is processed in lab, good sperm are separated & nourished, then put them directly in to uterus is known as intra Uterine insemination IUI.

Ovulation induction combined with IUI gives better chance of conception as compared to ovulation induction combined with natural intercourse.

IN VITRO FERTILIZATION - IVF (TEST TUBE BABY)

In many women having PCO if every thing is normal and even after taking treatment for longer period of time, pregnancy does not take place, for them, IVF (In Vitro Fertilization) Test Tube Baby treatment is best option. IVF (Test Tube Baby) can give them best chance of conception.

Special information regarding Test Tube Baby - IVF is available in a separate booklet on IVF Test tube Baby.

For Figures of IUI and IVF see figure Nos. 4 & 5 on the inner side of the page.

Other Problems & Their Treatments

Irregular Menstruation

If there is only irregular menstruation without infertility, then treatment with the help of hormones, successfully treats irregular menstruation.

Abortion

Because of hyper secretion of LH, there is always a danger of abortion. After the procedure of Ovarian Diathermy & with the help of injection of GnRHa hormone, levels of LH could be reduced.

The use of those hormones which helps in reduction of LH and promotes production of egg are also helpful & fruitful.

PCO is a complex problem and after examining every woman for various symptoms, the decision to give suitable treatment should be left to the expert doctors which is beneficial.

Technology • Trust

As biggest and latest
fertility institute of India
We promise you the
best advice and treatment

We are with you.....



Simple | Safe | Smart | Successful

Opp. Manjul Municipal Garden, Next to Orion Building & Adani CNG,
Paldi Cross Roads, Paldi, Ahmedabad - 380 007.

Phone : 079 - 4040 4646, M. 98795 72298

E-mail : drbavishi@ivfclinic.com, Website : www.ivfclinic.com

Ahmedabad | Mumbai | Delhi | Kolkata | Surat | Vadadara | Bhuj