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Infertility in Women: Available Treatment and Complications

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Commentary

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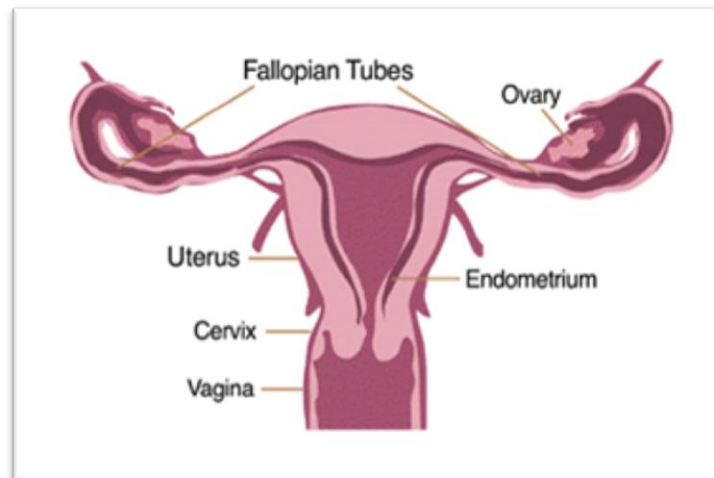
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Introduction

Infertility is the major problem being faced by about 20% of the married couple all over the world. The reason for infertility varies depending on the partners. In some cases problem might be in the woman and in some cases it might be in man. Some are curable while some cannot be set in right. Infertility is not only a problem it also disturbs ones mental strength and ability to cross the hurdle. Here I would like to discuss the infertility problems that a woman faces its treatments and complications. The paper also gives a brief on the procedures that are followed by most of the couples now-a-days. Infertility means the inability of conceiving in spite of their try to conceive from more than 1 year [1]. Women attains their puberty at the age of 14 years, women are born with a definite number of eggs called ovum. These ova are located in two pair of ovaries on the either side of the uterus in the pelvic region [2]. Every woman undergoes ovulation in the middle of their menstrual cycle [3]. Ovulation is the process of release of the fully matured ovum from the ovaries into the fallopian tubes [4]. Fallopian tubes are the two tubes that carries ovum from the ovaries to the uterus. Maximum fertilization occurs in the fallopian tubes. Every menstrual cycle may not be ovulatory cycle, sometimes ovum may not be released and such cycles are called as anovulatory cycles [5,6]. The percentage of ovulatory and anovulatory cycles changes the chance of fertility in the woman. Woman reaches the end of their fertile period at the age of 50-54 by menopause. Menopause is the cessation of menstrual cycles [7]. The chances of getting pregnancy decreases gradually 3-5% for every year from the age of 30 years.



Causes

Female infertility may be due to following reasons [8-12].

1. Damage of the fallopian tubes, or blocked fallopian tubes: Damage of the fallopian tubes may affect fertilization of the egg with sperm. Pelvic infections, pelvic surgeries and other damages in the pelvic region may cause damage to fallopian tubes or blockage.
2. Hormonal imbalance: Hormonal imbalance may lead to changes in ovulation, thickness of endometrium, and changes in the release of other hormones that are responsible for maintaining uterus for the embryo deposition may lead to infertility.
3. Cervical problems: In some women sperm couldn't pass through the cervix due to poor mucus formation or narrowness. This condition can be treated by intrauterine insemination.
4. Uterine problems: Formation of Fibroids, polyps and abnormal formation of endometrium in the uterus may affect the chances of fertilization.
5. Vitamin Deficiency: Vitamins like folic acid, B6 and B12 are very important for the women who are trying for pregnancy, deficiency of proper vitamins intake may also affect the process of fertilization.
6. Increase in the percentage of male sex hormones like Androgen, Testosterone in woman is a condition rare but possible cause for infertility [13].
7. Behavioural factors are also responsible for infertility, it is well known that certain personal habits, physical exercise, and lifestyle affects human health, in the same way usage of certain drugs, alcohol consumption, smoking, diet and physical activity determines the health and fertility of the woman [14,15].

Diagnosis:

Infertility in woman can be diagnosed by several tests like blood test to check the hormonal percentages, endometrial biopsy, hysterosalpingography, and laparoscopy. Based on the results of these tests the chances of fertility in a woman can be determined [16-18].

Treatment:

Fallopian blockade can be treated by hydrotubation, in which the lumps or blockage in the tubes will be cleared by forcing fluids through intravaginal route [19]. Laparoscopy is the process in which a small aperture is formed on the lower abdomen and by inserting one laparoscope cysts, polyps, fibroids, and other tumors can be removed [20]. To open blocked tubes, to remove fibroids and tumors of uterus hysteroscopy is performed, This process is also an intravaginal process [21]. In woman with narrow cervix or partner with oligospermia intrauterine insemination is done, with the means of one narrow catheter the sperm collected from the sex partner will be placed in the uterus of the woman at the time of ovulation with combination of drugs to enhance the ovulation process [22,23]. In vitro Fertilization (IVF) is a process which has been a miracle for the couple with no children, in this process the woman is given with gonadotropins that induces egg formation and the matured eggs are collected by means of a vaginal ultrasound probe. These eggs are placed in a petri dish and fertilized with the sperms that have been collected simultaneously from the sex partner. Fertilization and formation of embryo takes place in the petri dish, which will be transferred to the womb of woman by means of a catheter [24-28]. Multiple embryos are placed in one attempt, because the success rate of all the embryos is less and to make sure multiple embryos are placed [29].

- i. Intracytoplasmic sperm injection (ICSI) is the process performed in sperm related infertility problem. The sperm collected from the partner will be directly ingested into the egg in a petri dish and the embryo will be placed in the uterus [30,31].
- ii. Gamete intrafallopian tube transfer (GIFT) and Zygote intrafallopian tube transfer (ZIFT) are similar to IVF. Eggs and sperms are placed in the fallopian tubes in case of GIFT and zygote formed from fertilization is placed in the fallopian tubes in case of ZIFT [32,33]. For woman whose uterus is incapable of carrying the fetus or having incurable problem, surrogating is the only way to be a mother, in which the egg is collected from egg donor and it is fertilized with the partner's sperm, the fertilized embryo will be placed in the womb of another woman who is capable and healthy. The woman who carries the fetus and not biological mother is known as surrogate [34,35].

Medication therapy is given for some woman who doesn't have any major problem but faces problem with conceiving. The medication can be of multivitamins, or drugs that enhance ovulation or maintain hormonal balance. Medication will be commonly given to patients who are undergoing IVF, and other intrauterine procedures [36,37].

Complications:

The range of complications varies from minor issues to severe health problems. Some of them are Ovarian Hyperstimulation Syndrome (OHSS), ectopic pregnancy, Pelvic infection, Multiple pregnancy, birth defects, congenital anomalies, miscarriage, pre-clampsia are the risks associated with Intrauterine treatments [38-40].

Conclusion:

Every intrauterine treatment has its own risk factors, the intensity of the risk factors depends on the process and the physician. Every couple should think from every corner before selecting the physician and the procedure.

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