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resulting from fertility treatments.

However, pregnancy loss is not a rare event. About 30% of women planning children experience a loss, but most of them go on to conceive again soon and give birth to healthy babies.

About 80% of early pregnancy losses can be due to genetic reasons wherein some form of irregularity occurs during the creation of the embryo from the egg and the sperm. Natural protection mechanisms do not allow these abnormal embryos to grow and they drop off.

Often, women may not even be aware of these very early losses, as they occur even before the date of expected period. They do not show up on any pregnancy tests either. This kind of sporadic single miscarriages do not compromise future pregnancy outcome. Time off for just one month is enough and the next pregnancy can be

BIOCHEMICAL PREGNANCY

This loss is one wherein the pregnancy test, urine test or serum B-HCG test is positive, before it is lost. Medical research does not identify these as repetitive pregnancy losses, but they are indications for investigation if they occur repeatedly.

ECTOPIC PREGNANCIES

In such pregnancies, the embryo implants in the tube outside the normal location, that is the uterine endometrium. These occur for a different set of reasons and need to be treated differently.

VARIOUS CAUSES OF MISCARRIAGE

It is known that 95% of pregnancies go on to result in a healthy baby, once the heart beat is identified on an ultrasound scan. This is an important and reassuring milestone.

What are the reasons for sporadic but isolated pregnancy losses? When should we accept a miscarriage as an event with low risk of repeating and proceed with future pregnancy planning? And more importantly when is it important to evaluate for possible reasons?

These are dilemmas that doctors face every day. Reasons for a failed pregnancy could be multifactorial. Pregnancy losses in the first trimester before 12 weeks can have totally different causes when compared to pregnancy losses in later stages. Many aspects can individually or collectively lead to repeated pregnancy losses. Often, the work up can be exhaustive and sometimes yield no answers. That is the reason a balanced step wise evaluation is very important, to identify the 5% of women in whom repeated

However, there are many more conditions such as autoimmune disorders, male factor problems like raised DNA fragmentation index, uterine malformations and also unquantifiable factors like

stress which can all can lead to pregnancy losses.

ADVANCED MATERNAL AGE

The age of the woman influences the outcome of a pregnancy to a large extent. Women over 35 years have a higher chance of forming aneuploid embryos, where the chromosomal component is incompatible with life. Doctors always tend to tread with caution when women over 35 seek advice for pregnancy planning. Age also tends to lower the available number of eggs and their quality, thereby narrowing the window of time available for these women. Here, the specialists must act in time and test for any other problems while assessing the lady's ovarian reserve.

HORMONAL CAUSES

At least 10-12% of pregnancy losses result from a hormonal cause. There could be thyroid or prolactin disorders or uncontrolled sugars. Polycystic Ovarian syndrome that is today seen in 3 out of every 10 women, can also result in

that is the hormonal support needed to maintain the pregnancy can be inadequate. Also, raised androgens and insulin resistance and altered hormonal regulation due to obesity, can all lead to increased miscarriages. Women with any known hormonal imbalance or irregular cycles, should not ignore a pregnancy mishap. Medical evaluation, treatment and lifestyle changes, must be considered and general health must be optimized before planning the next pregnancy.

GENETIC CAUSES

Most early pregnancy losses occur because of genetic reasons. It does not mean that the parents carry some chromosomal abnormalities. Most abnormal embryos, form as a result of ineffective fertilization or spontaneous occurrence of damaging mutations during their creation. In that case, the problem remains limited and pregnancy and future conception is not affected. Only when there is a history of genetic disorders seen in family members, 2-3 repeated miscarriages, or birth of children with deformities is present, is there a need to evaluate. Both the parents and also the conception products that have been miscarried, need to be tested for genetic analysis. This can take medical experts one step closer to diagnosis. Today, there are numerous options such as embryo biopsy, to identify healthy embryos with the correct chromosome makeup. This is a great boon for couples with dreadful familial diseases such as thalassemia, sickle cell anemia and such, where embryo selection helps all future generations be completely free of the disorder. Genetic analysis is suggested usually with or after the second mishap of pregnancy loss in the general population.

IMMUNITY CAUSES

Immunity plays an important role in establishing and maintaining a healthy pregnancy. It is important to understand that a pregnancy is a foreign tissue to the body, and by default any foreign tissue is rejected. Extensive immunomodulation occurs in a woman's body and the uterus, to accept the pregnancy and support its growth. This complex process is recognized but not completely understood today. Whenever there is a dysregulated immune system, implantation fails. This is an important factor in recurrent pregnancy losses.

Immune system disorders can be of many types. For example, there have been women with meet their fertility doctor even before they con-



up-to 8 early trimester losses, in whom factors such as APLA- Anti Phospholipid antibodies were identified, who with medications went on to have a healthy baby. Again, there is a pattern for different kinds of miscarriages related to autoimmunity, which needs to be identified and tested differently.

MALE FACTORS

There is 50% contribution of the sperm in the formation of the embryo. Embryos formed from sperms with high content of damaged DNA tend to miscarry. High DFI (DNA Fragmentation Index) which indicates the percentage of damage in the sperm DNA, is always silent and needs to be tested for specifically. Men over 40, or with medical disorders such as diabetes and hypertension, obesity and infections can have a high DFI in the sperm sample.

UTERINE FACTORS

Even one second trimester miscarriage needs to be taken seriously. Usually, but not always, some abnormalities of the uterus could be the reason. Congenital malformations (birth defects), shape abnormalities wherein the cavity is not sufficiently spacious for the pregnancy, or incompetence of the cervix wherein the lower opening of the uterus is unable to hold the pregnancy and gives way, are some of the factors that could lead to miscarriage. Testing towards detection and correction of these factors will avoid further problems.

MISCARRIAGE FOLLOWING IVF

Similarly, even a single pregnancy loss after assisted reproduction need to be evaluated, as IVF pregnancy loss is much more devastating considering the emotional, financial and medical issues involved.

PREVENTION IS BETTER THAN CURE

A planned pregnancy is always ideal. Even simple lifestyle changes, maintaining healthy food habits and an ideal body weight, reducing stress and taking prenatal medications such as folic acid, can go a long way in achieving healthy pregnancies.

While extensive evaluation is not warranted for a single pregnancy loss, women over 35, couples with any medical illnesses, hormonal or genetic problems and couples who have been trying for a long time for a child, should ideally

ceive, rather than after a loss occurs. Others should consult for a general as well as relevant evaluation

By design of nature, human pregnancies have higher losses, most of which are lost even before the women is aware of the pregnancy, that is, before her missed period. This is a method of natural selection that ensures survival of the healthiest

The team of specialists at Hegde Fertility have over the years managed numerous complicated cases of recurrent pregnancy losses, with their advanced protocols of evaluation and by implementing newer therapies in management as per the couple's requirement. Today, with advancements in technology, various tests are available to help get a clearer understanding of the problem. The well qualified and experienced doctors have successfully taken such patients to term and helped them achieve healthy live birth safely. Couples can be reassured that every problem identified has a solution. Hegde Fertility also provides expert psychological counsellor for emotional support, which is equally important to give couples the required strength and hope.

INFERTILITY DEPARTMENT

DR. VANDANA HEGDE

Clinical Director & Chief IVF Consultant DR. DURGA VYTLA

Clinical Head - Miyapur Branch

DR. JASMINE SALKAR Consultant-Reproductive Medicine

DR. SHALINI SINGH

Consultant-Reproductive Medicine DR. LAVANYA BOMMAKANTI

Consultant-Reproductive Medicine DR. ARCHANA A NAGAONKAR

Consultant-Reproductive Medicine

DR. INDRANI MOGILI **Consultant-Reproductive Medicine**

DR. RAGASUDHA

Consultant-Reproductive Medicine

DR. SOUMYA HARISH

Consultant-Reproductive Medicine DR.ANUSHA BODDU

Consultant-Reproductive Medicine ANDROLOGY & EMBRYOLOGY DEPARTMENT

DR. AKASH AGARWAL **Scientific Director**

GENETICS DEPARTMENT

DR. SURBHI KAPOOR

Ph.D - Human Genetics **DEPARTMENT OF LAPAROSCOPY**

> DR. PRASHANT HEGDE **Medical Director**

> > For further details, contact:



Hitec City • Malakpet MiyapurSuchitra Call: 8880 747474 To know more visit: www.hegdefertility.com

