

## RISKS AND COMPLICATIONS OF IVF TREATMENT

### WHAT ARE THE POSSIBLE COMPLICATIONS OF IVF TREATMENT?

The risks of IVF should be understood before a patient embarks on treatment. As with any medical or surgical procedure, a few patients undergoing IVF treatment will experience side effects and complications. The most common complications associated with IVF treatment are the failure of treatment, problems experienced as a consequence of ovarian stimulation, the risk of multiple pregnancy, the risks associated with egg collection and the possibility of ectopic pregnancy.

### FAILURE OF IVF TREATMENT

This is the most common complication of treatment. The likely reasons for this failure are cancelled cycles (approximately 10% of treatment cycles will be abandoned before egg collection), failure to collect eggs (about 1%), failure of fertilisation (about 5%), and failure of the embryo to implant. This may be due to a significant portion of embryos being chromosomally abnormal and this proportion increases with advanced maternal age. The IVF (in-vitro fertilisation) procedure is considered by some, to be one of the most stressful infertility treatments. Failure of treatment can result in emotional strain, psychological stress and depression. Some couples may require psychological counselling. In addition, couples may encounter difficulties if a multiple pregnancy occurs.

### PROBLEMS ASSOCIATED WITH OVARIAN STIMULATION BY FERTILITY DRUGS

The fertility drugs used to stimulate ovulation are associated with several complications. There is no drug that is absolutely safe and completely free of side effects. The fertility drugs that stimulate ovulation are rarely associated with complications however the potential problems associated with fertility drugs which may occur include: Ovarian hyperstimulation syndrome (OHSS), multiple pregnancy and adnexal torsion (ovarian twisting).

### SIDE EFFECTS OF OVARIAN STIMULATION BY FERTILITY DRUGS

There are several side effects associated with the use of fertility drugs. Puregon or Gonal F injections may induce a variety of mild side effects including bruising and soreness at the site of injections, abdominal tenderness and swelling, breast tenderness, mood swings and occasional nausea. There is also a small risk of a generalised allergic reaction. Other drugs such as GnRH (Synarel or Lucrin) analogues may cause headaches, mood changes, hot flushes and vaginal dryness in some women. These effects are usually short-lived and are no cause for concern. Approximately 15% of patients will develop functional cysts while on GnRH agonist's regimes (Synarel). These cysts may produce estrogen, and sometimes are associated with poor IVF outcomes. If this happens, the patient will be advised to continue taking GnRH agonist drugs until the cysts resolve by themselves. Aspiration of the cyst may be required.

### OVARIAN HYPERSTIMULATION SYNDROME (OHSS)

This is the most serious complication of IVF. Any patient undergoing ovulation induction is at risk of developing OHSS, although some more than others. The fertility medications used to stimulate the ovaries may cause side effects. Excessive

stimulation of the ovaries is called ovarian hyperstimulation syndrome (OHSS). OHSS may be classified as mild, moderate or severe by symptoms and signs. The worst cases appear to be associated with pregnancy. Severe OHSS is a life threatening complication following ovarian stimulation. The majority of women will develop mild to moderate OHSS, with symptoms invariably resolving within 1 to 2 weeks. If a pregnancy occurs, recovery from the syndrome may be delayed sometimes taking up to 10 weeks for the symptoms to resolve. Symptoms include abdominal discomfort, a bloated feeling, nausea, slight weight gain and mild abdominal swelling. Very rarely, in about 1-2% of women, the symptoms may become so severe, hospitalisation is necessary. Symptoms including nausea, vomiting, marked abdominal pain, diarrhoea and dehydration. Fluid accumulates in the abdominal cavity and chest, causing abdominal swelling and shortness of breath. There is a reduction in the amount of urine produced. These symptoms require constant monitoring by the Doctor, whilst the woman is in hospital. Women diagnosed with severe OHSS may take up to 4-6 weeks to recover from their symptoms. Complications associated with severe OHSS include blood clotting disorders, kidney damage and twisted ovary (ovarian torsion). Despite careful monitoring, a small number of women (about 3-5% of total treatment cycles) may develop OHSS.

### MULTIPLE PREGNANCY

Within Australia generally only one or two embryos are transferred in each IVF attempt in order to reduce the incidence of multiple birth. If two or more embryos are replaced this could result in high-order multiple pregnancies. Although the prospect of twins or triplets may seem attractive to some couples, multiple pregnancies are associated with increased risks of maternal and fetal complications. In addition, multiple pregnancies place enormous strains on the parents including financial difficulties, emotional distress and physical exhaustion.

In 2002, within Australia, multiple pregnancies occurred in 18.9% of all IVF pregnancies, twin pregnancies occurred in 18.3% and, triplet pregnancies occurred in 0.6% of all IVF pregnancies (NPSU Report, Assisted Conception Australia and New Zealand 2002). Multiple pregnancies within Australia have demonstrated a steady decline. Since 1993 2.0% of deliveries were triplets or higher order multiples. By 2002, this figure had decreased to 0.6% of deliveries being triplets and there were no quadruplet or higher order deliveries. This decrease is due to careful management of the number of embryos transferred to the uterus, to reduce complications resulting from multiple pregnancies.

## ADNEXAL TORSION

The term adnexal torsion refers to when the stimulated ovary twists on itself, cutting off its own blood supplies. Ovarian torsion is a rare complication of IVF treatment. The overall risk is about 0.2%. It is greater in the presence of OHSS. Ovarian torsion may cause severe pain and tenderness in the lower abdomen. If not treated early enough the twisted ovary may die. Treatment is surgery to untwist the ovary and even removing it in some cases.

## THE RISK OF OVARIAN AND BREAST CANCER

Doctors have used fertility drugs in Australia since the 1960's, triggering women's ovaries to produce eggs. This approach has proved successful in assisting many women with fertility problems to become pregnant and have children. In the past 20 years the use of fertility drugs has increased markedly following the development of IVF, GIFT and ICSI. The growth in the numbers of women seeking help to become pregnant provided an opportunity for a study within Australia (the largest of its type anywhere in the world) to be conducted, to address concerns that women on fertility drugs might be at increased risk of cancer. Reassuringly, findings of the study indicated cancers

of the breast and ovary were no more common in IVF patients overall than in the general population. Cancers of the breast, ovaries and uterus are associated with diseases of older women whom have never undergone fertility treatment. Lastly, there was no evidence of any link between the number of treatment cycles or type of fertility drug used and increased cancer incidence.

## RISKS OF EGG COLLECTION

As with any surgical procedure, there are potential risks associated with egg collection. Such risks depend on whether the egg collection is performed by vaginal ultrasound or laparoscopy and include bleeding, infection or injury to other internal organs. In addition, there are risk of complications associated with the use of a general anaesthetic, although this is rare in healthy women.

## ECTOPIC PREGNANCY

Ectopic pregnancy is any pregnancy that occurs outside the cavity of the womb and is a potentially life threatening condition. Ectopic pregnancy is a well-known complication of assisted conception treatments. The reported incidence of ectopic pregnancy after IVF treatment varies between 1-2% of all pregnancies. This is higher than is reported after natural conception, which is about 1 in 100 to 300 pregnancies because IVF patients are already at risk of tubal disease. After one ectopic pregnancy, the risk of recurrence is between 10-20%.



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