



Risks and complications of assisted conception

INTRODUCTION

No medical treatment is entirely free from risk and infertility treatment is no exception. It is important, however, to appreciate that most patients go through IVF and other assisted conception treatments without any problems at all.

The risks associated with infertility treatment can be considered over six categories:

- The risks associated with the drugs used to stimulate ovaries
- The surgical risks associated with egg collection
- Laboratory issues and risks
- The risks associated with pregnancy
- The risks of an abnormal pregnancy
- Psychological and emotional risks

RISKS ASSOCIATED WITH DRUGS USED TO STIMULATE OVARIES

Ovarian Hyperstimulation Syndrome (OHSS)

Stimulation of the ovaries is a deliberate aspect of IVF treatment as we try to obtain more eggs than the one that would usually be produced in a normal menstrual cycle. When the ovaries are stimulated there is a possibility of OHSS developing which is an excessive response to the stimulatory drugs used to encourage multiple follicles to form.

Preventing OHSS

As part of your fertility investigations we will review information from your medical history, past treatments, ultrasound scans and blood test results to try and assess your risk of OHSS before you commence treatment. There are several strategies that we can use to minimise the risks of you developing OHSS

- using an antagonist protocol for ovarian stimulation for high risk patients
- using lower dose stimulation
- monitoring your response carefully with serial ultrasound scans and sometimes estradiol levels
- using a GnRH trigger injection such as buserelin
- freezing all embryos and allowing ovaries to settle before preparing for transfer more rarely, we may suggest cancelling your cycle before egg collection and reviewing any further attempts at treatment

The majority of cases are a mild to moderate form, occurring in up to 5% of all patients undergoing IVF treatment.

Mild OHSS

- mild abdominal distension and discomfort
- nausea

These cases settle in a few days and require observation, painkillers for discomfort, a good fluid intake and occasionally some blood tests but usually no specialist treatment.

Moderate OHSS

- more marked abdominal distension and pain
- nausea or vomiting

Severe OHSS

- dehydration and extreme thirst
- more marked abdominal distension and pain
- nausea and vomiting
- passing smaller amounts of urine
- difficulty with breathing

What causes OHSS?

Fertility drugs, usually gonadotrophins, are used to stimulate the ovaries during IVF treatment to make follicles grow. Eggs are then collected from these follicles. Sometimes there is an excessive response to these drugs, leading to OHSS.

Overstimulated ovaries enlarge and release chemicals into the bloodstream. Fluid from the blood vessels leaks into your abdomen and in severe cases into the space around the heart and lungs. OHSS can affect the kidneys, liver and lungs. A very small number of deaths due to OHSS have been reported.

Who gets OHSS?

Mild OHSS is common in women having IVF treatment affecting as many as 33 in 100 women (33%). However, just over 1 in 100 women (1%) will develop moderate or severe OHSS.

The risk is higher in women who:

- have polycystic ovaries
- are under 30 years old
- have had OHSS previously
- get pregnant in the same IVF cycle as they get their symptoms, particularly if this is a multiple pregnancy (more than one baby)

How long does it last?

Most of your symptoms should resolve in 7–10 days. If your fertility treatment does not result in a pregnancy, OHSS usually gets better by the time your next period starts. If you become pregnant, OHSS can get worse and last up to a few weeks or longer.

What should I do if I have mild OHSS?

If you have mild OHSS, you can be looked after at home. Ensure that you drink fluids at regular intervals depending on how thirsty you feel. If you have pain, take paracetamol or codeine (no more than the maximum dose). You should avoid anti-inflammatory drugs (aspirin or aspirin-like drugs such as ibuprofen), which can affect your kidneys. It is advisable to remain active to reduce the risk of clots forming in the legs or lungs.

When should I call Aria Fertility for help?

If you start to vomit, have urinary problems, shortness of breath or chest pain then we advise you go to your local A&E department at your local hospital

If you have increasing abdominal pain or swelling, nausea or vomiting please contact the clinic directly. We may then ask you to come to Aria fertility for some further tests.

What may happen at Aria Fertility?

We may do the following:

- ask about how much urine you are passing and whether it is darker than normal (concentrated)
- measure your blood pressure, pulse rate and breathing rate
- take an initial measurement of your waistline and check your weight to see whether the fluid is building up or reducing
- arrange an ultrasound scan to measure the size of your ovaries and to check whether there is any
- fluid build-up in your abdomen
- take blood tests to measure how concentrated your blood is and how well your kidneys are working

A diagnosis is made on the basis of your symptoms, the examination findings and the results of your tests. If you are well enough to stay at home, you may be advised to attend for regular check-ups.

When will I need to stay in hospital?

Many women can be managed as outpatients but you may need admission if:

- your pain is not helped by pain-relieving medications
- you have severe nausea and vomiting
- your condition is not getting better
- you will be unable to attend Aria Fertility easily for monitoring and follow-up

If you are vomiting, you may need a drip to replace the fluids you have lost. The fluid will help to keep you hydrated. The team looking after you in hospital may want to speak to Aria Fertility regarding your condition, particularly if they are not experienced in looking after OHSS patients.

What is the treatment for OHSS?

Although there is no treatment that can reverse OHSS, it will usually get better with time. Treatment is to help symptoms and prevent complications.

This includes:

- pain relief such as paracetamol or codeine
- anti-sickness drugs to help reduce nausea and vomiting
- an intravenous drip to replace fluids
- support stockings and heparin injections to prevent thrombosis (a blood clot in the leg or lungs)

Heparin injections for blood thinning should be continued for 7 days from cure of your symptoms if you are not pregnant or until the end of the 12th week of your pregnancy.

If your abdomen is tense and swollen because of fluid build-up, you may be offered a procedure known as a paracentesis. This is when a thin needle or tube is inserted under ultrasound guidance into your abdomen to remove fluid. You may be offered a local anaesthetic for this procedure. This treatment helps relieve discomfort and improve kidney function and your breathing. Rarely, advice may be sought from a more specialist team which may involve anaesthetists and/or intensive care doctors.

Are there any ongoing concerns if I have had OHSS and become pregnant?

To lower the risk of developing a blood clot in your legs or lungs, you will be advised to continue wearing support stockings and taking heparin (blood-thinning) injections until 12 weeks of your pregnancy. You may be at increased risk of developing pre-eclampsia or giving birth to your baby prematurely. However, there are no known risks to your baby's development as a result of OHSS.

Is there anything else I should know?

- If you develop OHSS, your ovaries will be enlarged and painful. You should avoid having sex or doing strenuous exercise to avoid injury to the ovaries.
- A few women develop OHSS as an after-effect of other fertility treatment

Key points

- OHSS is a potentially serious complication of fertility treatment, particularly IVF.
- It can range from mild to severe. Mild OHSS is common and usually gets better with time. More severe cases require specialist care and hospital admission.
- It is important to make contact with your fertility unit if you develop symptoms suggestive of more than mild OHSS.

Risk of thrombosis (forming blood clots)

There is an increased risk of thrombosis in naturally conceived pregnancies. For assisted conception treatment the risk is thought to be approximately 3 times higher, most of this risk occurring in the first 12 weeks of pregnancy. Most of these pregnancies affected by thrombosis are where OHSS and subsequent pregnancy has occurred. There does not appear to be an increased risk of clot formation with frozen embryo replacement cycles shown in some studies although using estrogen in the form of tablets and patches does increase the risk of thrombosis with long term use. Currently the only indication for blood thinning medications is where OHSS has occurred in which case injections such as clexane are indicated up until 12 weeks of pregnancy.

Risk of under response

It is also possible for your ovaries to under respond to stimulation. If this happens, your drug dose may need to be increased or the cycle cancelled. If cancellation occurs, a 'cancellation fee' will be charged – see fee schedule for details.

Risk of developing cancer

Ovarian cancer: Women who have never been pregnant are known to be at a slightly increased risk of developing ovarian cancer. It has been suggested that the use of drugs used to stimulate ovaries may increase the risk of developing ovarian cancer. Two studies from North America suggested that the risk of ovarian cancer developing increased in women using the drug clomifene. Subsequent studies, however, have not confirmed this risk. Follow up data from Scandinavian Registries which have tracked IVF patients' cancer risks from the early days of IVF have also been very reassuring. Therefore the current position is that if a risk of ovarian cancer exists it is very low and unconfirmed.

Uterine, Breast and Cervical cancer: There is no association that we know of between the use of drugs to stimulate ovulation and the development of uterine, breast or cervical cancer.