

# Overview of Ovarian hyperstimulation syndrome (OHSS)

Ovarian hyperstimulation syndrome affects women taking injectable hormone medications to stimulate the development of eggs in the ovaries. This may occur in women undergoing in vitro fertilization (IVF), ovulation induction or intrauterine insemination.

Too much hormone medication in your system can lead to ovarian hyperstimulation syndrome (OHSS), in which your ovaries become swollen and painful. A small number of women may develop severe OHSS, which can cause rapid weight gain, abdominal pain, vomiting and shortness of breath.

Less often, OHSS happens during fertility treatments using medications you take by mouth, such as clomiphene (Clomid, Serophene). Occasionally OHSS occurs spontaneously, not related to fertility treatments.

## Symptoms

Symptoms of ovarian hyperstimulation syndrome often begin within 10 days after using injectable medications to stimulate ovulation. Symptoms can range from mild to severe and may worsen or improve over time.

### Mild to moderate OHSS

With mild to moderate ovarian hyperstimulation syndrome, symptoms can include:

- Mild to moderate abdominal pain
- Abdominal bloating or increased waist size
- Nausea
- Vomiting
- Diarrhea
- Tenderness in the area of your ovaries
- Sudden weight increase of more than 6.6 pounds (3 kilograms)

Some women who use injectable fertility drugs get a mild form of OHSS, which goes away after about a week. If pregnancy occurs, however, symptoms of OHSS may worsen and last several days to weeks.

### Severe OHSS

With severe ovarian hyperstimulation syndrome, you might have:

- Rapid weight gain — such as 33 to 44 pounds (15 to 20 kilograms) in five to 10 days
- Severe abdominal pain
- Severe, persistent nausea and vomiting
- Blood clots in legs

- Decreased urination
- Shortness of breath
- Tight or enlarged abdomen

### **When to see a doctor**

If you're having fertility treatments and you experience symptoms of ovarian hyperstimulation syndrome, tell your doctor. Even if you have a mild case of OHSS, your doctor will want to observe you for sudden weight gain or worsening symptoms.

Contact your doctor right away if you develop breathing problems or pain in your legs during your fertility treatment. This may indicate an urgent situation that needs prompt medical attention.

Request an Appointment at Yanaihara Women's Clinic 0467-50-0112

## **Causes**

The cause of ovarian hyperstimulation syndrome isn't fully understood, although having a high level of human chorionic gonadotropin (HCG) — a hormone usually produced during pregnancy — introduced into your system plays a role. Ovarian blood vessels react abnormally to HCG and begin to leak fluid. This fluid swells the ovaries, and sometimes large amounts move into the abdomen.

During fertility treatments, HCG may be given as a "trigger" so that a mature follicle will release its egg. OHSS usually happens within a week after you receive an HCG injection. If you become pregnant during a treatment cycle, OHSS may worsen as your body begins producing its own HCG in response to the pregnancy.

Injectable fertility medications are more likely to cause OHSS than is treatment with clomiphene, a medication given as a pill you take by mouth.

## **Risk factors**

Factors that increase your risk of OHSS include:

- Polycystic ovary syndrome — a common reproductive disorder that causes irregular menstrual periods, excess hair growth and unusual appearance of the ovaries on ultrasound examination
- Large number of follicles
- Age under 30
- Low body weight
- High or steeply increasing level of estradiol (estrogen) before an HCG trigger shot
- Previous episodes of OHSS

In some cases, OHSS affects women who have no risk factors at all.

# Complications

About 1 to 2 percent of women undergoing ovarian stimulation develop a severe form of ovarian hyperstimulation syndrome. Severe OHSS can be life-threatening. Complications may include:

- Fluid collection in the abdomen and sometimes the chest
- Electrolyte disturbances (sodium, potassium, others)
- Blood clots in large vessels, usually in the legs
- Kidney failure
- Twisting of an ovary (ovarian torsion)
- Rupture of a cyst in an ovary, which can lead to serious bleeding
- Breathing problems
- Pregnancy loss from miscarriage or termination because of complications
- Rarely, death

# Prevention

To decrease your chances of developing ovarian hyperstimulation syndrome, you'll need an individualized plan for your fertility medications. Expect your doctor to carefully monitor each treatment cycle, including frequent ultrasounds to check the development of follicles and blood tests to check your hormone levels.

Strategies to help prevent OHSS include:

- **Adjusting or changing medication.** Your doctor uses the lowest possible dose of gonadotropins to achieve the goals of stimulating your ovaries and triggering ovulation. Giving women who have polycystic ovary syndrome the drug metformin (Glucophage, Glumetza, others) during ovarian stimulation may help prevent hyperstimulation.
- **Coasting.** If your estrogen level is high or you have a large number of developed follicles, your doctor may have you stop injectable medications and wait a few days before giving HCG, which triggers ovulation. This is known as coasting.
- **Avoiding use of an HCG trigger shot.** Because OHSS often develops after an HCG trigger shot is given, alternatives to HCG for triggering have been developed using Gn-RH agonists, such as leuprolide (Lupron), as a way to prevent or limit OHSS.
- **Freezing embryos.** If you're undergoing IVF, all the follicles (mature and immature) may be removed from your ovaries to reduce the chance of OHSS. Mature follicles are fertilized and frozen, and your ovaries are allowed to rest. You can resume the IVF process at a later date, when your body is ready.