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Egg retrieval, freezing and preservation

The purpose of this leaflet is to provide an overview of egg retrieval and freezing as one of the options for fertility preservation, the nature of the preparatory treatment for ovarian puncture, the retrieval and preservation of eggs and the possible side effects and complications of ovarian puncture.

General information

To retrieve and freeze eggs, please register for an appointment with a gynaecologist at the Centre for Infertility Treatment by calling customer service at +372 666 1900. A referral is not required. Egg retrieval, freezing and preservation for social reasons are paid services. Egg retrieval, freezing and preservation for medical reasons are covered by the Health Insurance Fund. You can find information about the prices on East Tallinn Central Hospital's website at www.itk.ee.

Reasons for egg freezing and storage

Eggs are frozen and preserved for various medical and social reasons. Egg freezing and preservation for medical indications is recommended when the disease or its treatment significantly impairs fertility (for example, severe endometriosis, autoimmune diseases, chemotherapy for malignant tumours, extensive ovarian surgery). After treatment, women have the opportunity to later use the preserved eggs in an in vitro fertilisation (ICSI – intracytoplasmic sperm injection) procedure. Social reasons include the tendency to postpone childbearing to an older age; this is due to career, financial situation, lack of a suitable partner, etc. Knowing that fertility declines from the age of 32, it is recommended for social reasons to freeze eggs before the age of 35.

It is important to know that the use of frozen eggs for in vitro fertilisation does not guarantee conception and live birth. Conception and the birth of a live child depend on many factors: the number of eggs retrieved during ovarian puncture, the success of their fertilisation and development when the eggs are thawed (both are related to the woman's age and other factors), the number of embryos suitable for transplantation, etc.

Preparation for ovarian puncture

Before starting ovarian stimulation, the doctor assesses your health status, the presence of infectious diseases in the genital tract and hormone levels; a blood test is done to determine the presence of viral diseases.

During the menstrual cycle, a woman releases one to two eggs in her ovaries every month.

The goal of the preparation treatment for ovarian puncture is the simultaneous maturation of many eggs during one menstrual cycle. For this, ovarian stimulating medications – gonadotropins – should be used for 10-15 days at a higher dose than what is naturally produced by the woman's pituitary gland. Medications are administered by injection. Before starting the preparatory treatment, you will be taught how to inject the medication yourself.

The development of follicles (fluid-filled sacs containing eggs) in the ovaries is assessed by ultrasound examination and determination of hormone levels in the blood. During the preparation for the puncture, you will need to visit the doctor two to three times. In addition, a medication must be injected 32-38 hours before ovarian puncture to trigger the final maturation of the eggs.

Ovarian puncture, egg freezing

During ovarian puncture (egg retrieval), the follicular fluid containing eggs is aspirated under ultrasound guidance with a needle through the vaginal wall. All mature follicles are aspirated and the eggs are extracted immediately afterwards (egg retrieval). Anaesthesia is used to numb the procedure, so you must not eat or drink on the morning of the puncture. The anaesthesia is short-term and lasts exactly as long as the procedure takes place. Afterwards, you will stay at the Centre for Infertility Treatment for a few hours for observation.

Good quality eggs collected during the puncture and selected by the laboratory doctor are frozen by vitrification (flash freezing) in the Centre for Infertility Treatment laboratory within a few hours and placed in a liquid nitrogen environment at -196 °C. Eggs that are not suitable for freezing are destroyed. When thawing eggs, the viability of all eggs cannot be guaranteed. Fertilisation of thawed eggs is done using the *ICSI* method, which involves injecting a sperm into each viable egg. *The ICSI* method does not guarantee successful fertilisation and development of thawed eggs. Thawed and fertilised eggs do not guarantee normal embryo development, pregnancy and live birth.

Egg preservation

The doctor and/or midwife at the Centre for Infertility Treatment will explain to you the nature and necessity of treatment before egg retrieval, the success and cost of fertility-preserving treatment, and the possible side effects and complications associated with the procedure. If you agree, you will give written consent for egg retrieval and freezing and the storage of biological material. Eggs can be preserved at East Tallinn Central Hospital for a maximum of 12 years.

Side effects and complications of treatment

Many follicles form in the ovaries and some patients may develop ovarian hyperstimulation syndrome (OHSS) as a side effect of treatment after ovarian puncture. In this case, the ovaries react unpredictably actively to the treatment, resulting in damage to cell membranes in the body. Symptoms include abdominal pain, bloating, pressure in the stomach and rectum, nausea. If these symptoms occur, the doctor should be informed immediately. Generally, this condition requires hospitalisation. Despite the fact that OHSS can nowadays mostly be prevented with medication, it still occurs.

Very rarely, bleeding (from the vagina or into the abdominal cavity) can occur as a complication of ovarian puncture if a blood vessel is injured. Minor bleeding from the vagina is normal. Inflammatory complications can occur very rarely.

Thrombotic complications have also been described in the medical literature; they are more likely to occur in OHSS.

If you have any questions or would like more information about egg retrieval, freezing and preservation, please call the Centre for Infertility Treatment hotline at +372 5919 8395 (Monday to Friday 08:00-15:00).

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