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EPAR summary for the public

GONAL-f

follitropin alfa

This document is a summary of the European public assessment report (EPAR) for GONAL-f. It explains how the Committee for Medicinal Products for Human Use (CHMP) assessed the medicine to reach its opinion in favour of granting a marketing authorisation and its recommendations on the conditions of use for GONAL-f.

What is GONAL-f?

GONAL-f is a medicine that contains the active substance follitropin alfa. It is available as a solution for injection in a prefilled pen and as a powder and solvent that are made up into a solution for injection.

What is GONAL-f used for?

GONAL-f is used to treat the following groups:

- adult women (aged 18 years or over) who do not produce eggs and do not respond to treatment with clomiphene citrate (another medicine that stimulates the ovaries to produce eggs);
- adult women who are undergoing assisted reproductive techniques (fertility treatment) such as *in-vitro* fertilisation. GONAL-f is given to stimulate the ovaries to produce more than one egg at a time;
- adult women with severe deficiency (very low levels) of luteinising hormone (LH) and follicle stimulating hormone (FSH). GONAL-f is given together with a medicine containing LH to stimulate the eggs to mature in the ovaries;
- adult men who have hypogonadotrophic hypogonadism (a rare hormone deficiency disease). GONAL-f is used together with human chorionic gonadotrophin (hCG) to stimulate sperm production.

The medicine can only be obtained with a prescription.

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How is GONAL-f used?

Treatment with GONAL-f should be carried out by a doctor who has experience in the treatment of fertility problems.

GONAL-f is given by injection under the skin once a day. If the powder is being used, it should be mixed with the solvent provided just before use. The dose of GONAL-f and how often it is given depend on why it is being used and on the patient's response to treatment. After the first injection, the patient or their partner may give the injections themselves, if they are well motivated, have been trained and have access to expert advice.

For more information, see the package leaflet.

How does GONAL-f work?

The active substance in GONAL-f, follitropin alfa, is a copy of the natural hormone FSH. In the body, FSH controls reproductive function: in women, it stimulates the production of eggs; and in men, it stimulates the production of sperm in the testicles.

Previously, the FSH used in medicines was extracted from urine. The follitropin alfa in GONAL-f is produced by a method known as 'recombinant DNA technology': it is made by a cell that has received a gene (DNA), which makes it able to produce human FSH.

How has GONAL-f been studied?

GONAL-f has been studied in 222 women who do not produce eggs or respond to clomiphene citrate. It has also been studied as part of assisted reproductive techniques in 470 women. In these studies, GONAL-f was compared with human FSH that had been extracted from urine.

GONAL-f, in combination with LH, has also been studied in 38 women with severe LH and FSH deficiency, and in combination with hCG in 19 men with hypogonadotrophic hypogonadism. Because these conditions are rare, GONAL-f was not compared with any other treatments in these studies, and the low number of patients in the studies was considered to be acceptable.

In the studies of women, the main measures of effectiveness were the number of eggs collected, the number of women who released eggs and the number of follicles produced in the ovaries (small sacs that hold the eggs). In men, the studies looked at the number of men who started to produce sperm within the first 18 months of treatment.

What benefit has GONAL-f shown during the studies?

GONAL-f was as effective as human FSH in women who did not produce eggs or respond to clomiphene citrate: 84% of the women receiving GONAL-f produced eggs, compared with 91% of those receiving human FSH. GONAL-f was also as effective as human FSH at stimulating the ovaries during assisted reproductive techniques.

GONAL-f was effective in triggering egg development in women with severe LH and FSH deficiency. In the study in men, GONAL-f, used in combination with hCG, was effective in stimulating sperm production, with 63% of the men starting to produce sperm.

What is the risk associated with GONAL-f?

The most common side effects with GONAL-f (seen in more than 1 patient in 10) are reactions at the injection site (pain, redness, bruising, swelling or irritation). In women, ovarian cysts (sacs of fluid

within the ovaries) and headache are also seen in more than 1 patient in 10. For the full list of all side effects reported with GONAL-f, see the package leaflet.

GONAL-f should not be used in people who may be hypersensitive (allergic) to follitropin alfa, FSH, or any of the other ingredients. It must not be used in patients with tumours of the pituitary gland or hypothalamus, or cancer of the breast, womb or ovary. It must not be used when it would not be possible for the patient to have an effective response, such as in patients whose ovaries or testicles do not work or in women who should not get pregnant for medical reasons. In women, GONAL-f must not be used when there is enlargement of an ovary or a cyst that is caused by something other than polycystic ovarian disease, or when there is unexplained bleeding from the vagina. For the full list of restrictions, see the package leaflet.

In some women, the ovaries can over-respond to stimulation. This is called 'ovarian hyperstimulation syndrome'. Doctors and patients must be aware of this possibility.

Why has GONAL-f been approved?

The CHMP decided that GONAL-f's benefits are greater than its risks and recommended that it be given marketing authorisation.

Other information about GONAL-f:

The European Commission granted a marketing authorisation valid throughout the European Union for GONAL-f to Merck Serono Europe Ltd. on 20 October 1995. The marketing authorisation is valid for an unlimited period.

The full EPAR for GONAL-f can be found here. For more information about treatment with GONAL-f, read the package leaflet (also part of the EPAR) or contact your doctor or pharmacist.

This summary was last updated in 06-2010.