HMG

Human Menopausal Gonadotrophin

Prescription Only

Presentation
HMG Injection contains Human Menopausal Gonadotrophin (Menotrophin) BP.
HMG 75 IU: Each vial contains 75 IU Human Menopausal Gonadotrophin (Menotrophin) BP.
HMG 150 IU: Each vial contains 150 IU Human Menopausal Gonadotrophin (Menotrophin) BP.

Pharmacological Properties
Pharmacodynamic Properties
HMG directly affects the ovaries and the testes. **HMG** has gametotropic and steroidogenic effect. In the ovaries, the FSH-component in **HMG** induces an increase in the number of growing follicles and stimulates their development. FSH increase the production of estradiol in the granulose cells by aromatizing androgens that originate in the Theca cells under the influence of the LH-component. In the testes, FSH induces the transformation of premature to mature Sertoli cells. It mainly causes the maturation of the seminal canals and development of the spermatozoa. However, a high concentration of androgens within the testes is necessary and can be attained by a prior treatment using HCG.

Pharmacokinetic Properties
HMG is not effective when taken orally. **HMG**'s biological effectiveness is mainly due to its FSH and LH content. The pharmacokinetics of **HMG** following i.m. or s.c. administration were tested product specifically. The maximum serum level of FSH is reached 6-48 hours after i.m. injection and 6-36 hours after s.c. injection respectively. After that, the serum level decreases by a half-life of 56 hours (i.m.) and 51 hours (s.c.) respectively. Administered **HMG** is predominantly discharged renally.

Indications
Sterility in female with hypo- or normogonadotropic ovarian insufficiency: Stimulation of follicle growth.
Sterility in male with hypo- or normogonadotropic hypogonadism: in combination with HCG to stimulate spermatogenesis.

Posology And Method Of Administration

Sterility in Female: The dosage of **HMG** for the induction of follicle growth in normo-or hypogonadotropic women varies according to the individual. The amount depends on ovarian reaction and should be checked by ultrasound examinations of the ovarian and measuring estradiol levels. If the **HMG** dosage is too high for the treated individual, multiple uni-and bilateral follicle growth can occur. **HMG** is administered intramuscularly or subcutaneously and in general, the therapy is begun with a daily dosage corresponding to 75-150 IU FSH. If the ovaries do not respond, the dosage can slowly be increased until a rise in estradiol secretion and follicle growth is evident. Treatment with the same dosage of **HMG** continues until the pre-ovulatory estradiol serum level is attained. If the level rises too quickly, the dosage should be reduced. To induce ovulation, 5000 or 10000 IU HCG are injected i.m. 1 to 2 days after the last **HMG** administration.

Note: After a **HMG** dosage too high for the corresponding individual has been administered the following HCG administration can cause an unintentional hyperstimulation of the ovaries.

Sterility in Male: Initially, 2 X 5000 IU HCG a week are administered until a normal testosterone serum level is reached. Then, an additional dose of **HMG** (3 X 75-150 IU FSH + 75 - 150 IU LH) per week is administered for a few months.

Dosage and Administration
HMG is administered by intramuscular or subcutaneous injection.

Selection of Patients
Women: 1. before treatment with **HMG** is instituted, a thorough gynecologic and endocrinologic evaluation must be performed. This should include a hysterosalpingogram (to rule out uterine and tubal pathology) and documentation of anovulation by means of basal body temperature, serial vaginal smears, examination of cervical mucus, and determination of serum (or urine) progesterone, urinary pregnanediol and endometrial biopsy. 2. Primary ovarian failure should be excluded by the determination of gonadotropin levels. 3. Careful examination should be made to rule out the presence of an early pregnancy. 4. Patients in late reproductive life have a greater predilection to endometrial carcinoma as well as a higher incidence of anovulatory disorders. Cervical dilation and curettage should always be done for abnormal uterine bleeding or other signs of endometrial abnormalities.

Men: Patient selection should be made based on a documented lack of pituitary function. Prior to hormonal therapy, these patients will have low testosterone levels and low or absent gonadotropin levels. Patients with primary hypogonadotropic hypogonadism will have a subnormal development of masculinization, and those with secondary hypogonadotropic hypogonadism will have decreased masculinization.

Contraindications
In Female:
- Pregnancy
- Enlargement of the ovaries or cysts that is not caused by polycystic ovarian syndrome
- Gynecological bleeding whose cause is unknown
- Tumors in the uterus, ovaries and breasts
- Prior hypersensitivity to Menotrophins or to any of the excipients
- A high FSH level indicating primary ovarian failure
- The presence of uncontrolled thyroid and adrenal dysfunction
- The presence of any cause of infertility other than anovulation

In Male:
- Carcinoma of the prostate
- Tumors in the tests
- Normal gonadotrophin levels indicating normal pituitary function
- Elevated gonadotrophin levels indicating primary testicular failure
- Infertility disorders other than hypogonadotropic hypogonadism

The Following Conditions Should be Properly Treated Before therapy Is Begun:
- Dysfunctions of the thyroid gland and cortex of the suprarenal gland
- Hyperprolactinemia
- Tumors in the pituitary or in the hypothalamic glands

Special Warnings and Special Precautions for Use
In pregnancies occurring after induction of ovulation with gonadotropic preparations, there is an increased risk of miscarriage, multiples and ectopic pregnancies. Human Chorionic Gonadotrophin should not be administered to induce ovulation in females whose ovaries have unintentionally been hyper-stimulated. When treating sterile women, ovarian activity should be checked (ultrasound and estradiol levels in serum respectively) prior to Human Menopausal Gonadotrophin administration. During treatment, these tests should be carried out every one to two days until stimulation occurs. Ovarian reaction can also be measured using a cervix index. Close supervision is imperative during treatment. Treatment should be immediately discontinued if unintentional hyper-stimulation occurs. This warning is particularly important with respect to patients with polycystic ovarian disease. The severe form of ovarian hyper-stimulation syndrome may be life-threatening and is characterized by large ovarian cysts (prone to rupture), ascites, very often hydrothorax and occasionally thromboembolic phenomena.

Drug Interactions
Interaction with other medicaments are unknown. Human Menopausal Gonadotrophin can be injected together with Human Chorionic Gonadotrophin when treating infertile males.

Pregnancy and Lactation
There is no indication for Human Menopausal Gonadotrophin to be used during pregnancy and lactation period.

Overdosage
Treatment with Human Menopausal Gonadotrophin can lead to hyper-stimulation of the ovaries. This, however, mostly becomes clinically relevant only after Human Chorionic Gonadotrophin has been administered to induce ovulation (please see Undesirable effects paragraph). No therapy is necessary when a slight hyper-stimulation is present (Level I) accompanied by a slight enlargement of the ovaries (over size 5-7 cm), excessive steroid secretion, and abdominal pain. The patient should be informed, however, and carefully watched. Clinical supervision and symptomatic treatment, and perhaps an intravenous volume replacement in case of high hemoglobin concentration, is necessary if hyper-stimulation (Level II) with ovarian cysts (ovary size 8-10 cm) is present, accompanied by abdominal symptoms, nausea, and vomiting. Hospitalization is imperative when serious hyper-stimulation (Level III) with large ovarian cysts (ovary size more than 10 cm) is present accompanied by ascites, hydrothorax, enlarged abdomen, abdominal pain, dyspnea, salt retention, hemoglobin concentration, increased blood viscosity, and platelet aggregation with the danger of thromboembolisms.

Undesirable Effects Sensitivity to Human Menopausal Gonadotrophin
- Febrile reaction which may be accompanied by chills, musculoskeletal aches or pain, malaise and fatigue have occurred after the administration of Human Menopausal Gonadotrophin. It is not clear whether or not these were pyrogenic responses or possible allergic reactions. In addition, reports of "flu-like symptoms" including fever, Chills, musculoskeletal aches, joint pains, nausea, headache and malaise have been received.
- Gastrointestinal symptoms (nausea, vomiting, diarrhea, abdominal cramps, bloating)
- Pain, rash, swelling and/or irritation at the site of injection
- Body rashes
- Dizziness, tachycardia, dyspnea, tachypnea-the following medical events have been reported subsequent to pregnancies resulting from Human Menopausal Gonadotrophin therapy
- Ectopic pregnancy
- Congenital abnormalities

Preclinical Safety Data
Toxic effects caused by Human Menopausal Gonadotrophin are unknown in humans. There is no evidence of teratogenic, mutagenic and carcinogenic activity of Human Menopausal Gonadotrophin. Antibodies against Human Menopausal Gonadotrophin can be built up in single cases following repeated cyclical administration of Human Menopausal Gonadotrophin, causing the treatment to be ineffectual.

Pharmaceutical Precautions
Store at 2°C to 8°C (in a refrigerator). Do not keep in deep freeze.
Protect from light and keep in dry place. The reconstituted solution of the vial should be used immediately after piercing of the rubber stopper. Keep out of reach of children. Discard any remaining solution.

Commercial Packs
HMG 75 IU: Each pack contains 75 IU Human Menopausal Gonadotrophin as Lyophilized powder (In vial) with 0.9% NaCl (Ampoule) & Sterile Disposable syringe.
HMG 150 IU: Each pack contains 150 IU Human Menopausal Gonadotrophin as Lyophilized powder (In vial) with 0.9% NaCl (Ampoule), & Sterile Disposable syringe.

Manufactured by :

POPULAR

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