For the use of a Registered Medical Practitioner or a Hospital or a Laboratory only.

Testosterone Undecanoate Soft Gelatin Capsules

CERNOS®

Composition:
Each soft gelatin capsule contains:
Testosterone Undecanoate 40 mg
Excipients q.s.

Clinical Pharmacology:
Cernos® contains testosterone undecanoate, a fatty acid ester of the natural androgen testosterone.

Mechanism of Action
Testosterone is the principal endogenous hormone essential for normal growth and development of the male sex organs and male secondary sex characteristics. During adult life testosterone is essential for the functioning of the testes and accessory structures, and for the maintenance of the libido, sense of well being, erectile potency, prostate and seminal vesicle functioning.

Treatment of hypogonal males with testosterone soft gel capsules results in a clinically significant rise of plasma concentrations of testosterone, dihydrotestosterone and androstenedione as a well as a decrease of SHBG (sex hormone binding globulin). In males with primary (hypergonadotropic) hypogonadism treatment with this drug results in a normalization of pituitary function.

Pharmacokinetics
Testosterone is inactive on oral administration because it is prematurely inactivated by the liver. Testosterone undecanoate is a fatty acid ester of the natural androgen testosterone and is able to bypass the liver via the lymphatic system and is therefore orally active.

Following oral administration, part of the testosterone undecanoate is absorbed from the intestine into the lymphatic system, thus circumventing the first pass inactivation by the liver. During absorption testosterone undecanoate is partly reduced to dihydrotestosterone undecanoate. From the lymphatic system it is released into the plasma. In plasma and tissues both testosterone undecanoate and dihydrotestosterone undecanoate are hydrolyzed to yield the natural male androgens testosterone and dihydrotestosterone. Single administration of 80-160 mg of this formulation leads to a clinically significant increase of total plasma testosterone with peak levels of approximately 40 nmol/l (Cmax) reached approximately 4-5 hours after administration (tmax). Plasma testosterone levels remain elevated for atleast 8 hours. Testosterone and dihydrotestosterone are metabolised via the normal pathways. Excretion mainly takes place via the urine as conjugates of etiocholanolone and androsterone.

Indications:
Testosterone replacement therapy for primary or secondary hypogonadal disorders, for example:

- After castration
- Eunuchoidism
- Hypopituitarism
- Endocrine impotence
- Male climacteric symptoms such as decreased libido and decreased mental and physical activity
- Certain types of infertility due to disorders of spermatogenesis.

Testosterone therapy may also be indicated in osteoporosis due to androgenic deficiency.

Contra-indications:

- Known or suspected prostatic or mammary carcinoma.
- Hypercalciuria, hypercalcemia, nephrotic syndrome, ischemic heart disease or untreated congestive heart failure.

Warnings and Precautions:
Patients, especially the elderly, with the following conditions should be monitored: Those with latent or overt cardiac failure, renal or hepatic dysfunction, hypertension, epilepsy or migraine (or a history of these conditions) since androgens may occassionally induce sodium and water retention; hypernephroma, bronchial carcinoma, skeletal metastases, since these conditions may produce hypercalcemia or hypercalciuria which may in turn be exacerbated by androgen therapy. If hypercalcemia or hypercalciuria develops, treatment should be discontinued.

Androgens should be used cautiously in prepubertal boys to avoid premature epiphyseal closure or precocious sexual development. Skeletal maturation should be monitored regularly.

The use of steroids may influence the results of certain laboratory tests. In treating males, stimulation to the point of increasing nervous, mental and physical activities beyond the patient's cardiovascular capacity should be avoided.

Tumors and other histological abnormalities and disturbances of liver function have been reported in patients subjected to prolonged treatment with some testosterone derivatives, particularly 17-alpha alkyl derivatives. Hepatotoxicity has not so far been reported with testosterone soft gelatin capsules, but the possibility of it should not be entirely excluded.

If androgen associated adverse events are observed while taking this drug, treatment should be interrupted until the symptoms have disappeared after which it should be continued at a lower dosage. Hoarseness of the voice may be the first symptom of vocal change, which may lead to irreversible lowering of the voice. If signs of virilization, particularly lowering of the voice develop, treatment should be discontinued.

Androgen therapy should only be used in male hypogonadism in which testosterone levels have been demonstrated to be low.

Pregnancy & Lactation
Testosterone soft gelatin capsules are not indicated for women and must not be used in women.

Drug Interactions:
Concurrent administration of liver enzyme inducing drugs such as rifampicin, barbiturates, carbamazepine, dichloralphenazone, phenylbutazone, phenytoin or primidone may decrease the effect of testosterone undecanoate soft gelatin capsules.

Side effects:
The adverse effects that might occur with testosterone undecanoate capsules include:
Priapism and other signs of excessive sexual stimulation. Precocious sexual development, an increased frequency of erections, phallic enlargement and premature epiphyseal closure in prepubertal males. Sodium and water retention, oligospermia and a decreased ejaculatory volume.

Overdosage:
The acute oral toxicity of testosterone undecanoate is very low. Treatment may consist of gastric lavage with appropriate supportive therapy. Standard resuscitative measures should be given as required.

Dosage and Administration:
The initial dosage is usually 120-160 mg daily for 2-3 weeks. Subsequent dosage (40-120 mg daily) should be based on the clinical effect obtained during the first weeks of therapy.

The capsules should be taken after meals and should be swallowed whole without chewing. It is preferable that half of the daily dose be taken in the morning and other half in the evening. If an uneven number of capsules is taken daily, the greater part should be taken in the morning.

Elderly: Smaller and less frequent doses may achieve the same response.

Storage:
Store at temperature not exceeding 30°C, protected from moisture. Upon storage at very low temperature the contents of the capsule may become hazy but does not have impact on product performance.

Presentation:
Cernos® soft gelatin capsules are available in blisters of 10.

® Registered Trade Mark

For further details, please write to:

SUN PHARMA

Acme Plaza, Andheri-Kurla Road,
Andheri (E), Mumbai 400 059, INDIA.

D398/032018/V3
PEXPI0124A