LOW LEVEL OF TESTOSTERONE

Hypoandrogenism, Testosterone Insufficiency, Hypotestosteronism

An abnormally low testosterone production which may occur because of testicular or hypothalamic-pituitary dysfunction.

⚠️ Risk factor ♂ Male & Female

About Low level of testosterone

Hypogonadism is a medical term which describes a diminished functional activity of the gonads – the testes and ovaries in males and females, respectively – that may result in diminished sex hormone biosynthesis (such as testosterone and estrogen). Low testosterone is considered to be below 300 ng/dl in male patients.

Hypogonadism in older men is a syndrome characterized by the presence of low testosterone levels and clinical signs and symptoms of hypogonadism.

A significant percentage of men over 60 years of age have serum testosterone levels below the lower limits of young male adults (20 to 30 years). One longitudinal study has suggested that approximately 20% of men in their 60s and approximately 50% of men in their 80s have serum total testosterone (TT) levels significantly below those of the levels of normal young men.

Testosterone levels decline gradually with age. Unlike females going through menopause, the decline in testosterone in men is gradual, and there is variation among individuals. Upon reaching 80 years of age, the rate of testosterone secretion has decreased about 50% for men. Low testosterone can be identified through a simple blood test performed by a laboratory, ordered by a physician.

Treatment is often prescribed for total testosterone levels below 230 ng/dL. If the serum total testosterone level is between 230 and 350 ng/dL, repeating the measurement of total testosterone with sex hormone-binding globulin to calculate free testosterone or free testosterone by equilibrium dialysis may be helpful.

Symptoms

The symptoms and signs of hypogonadism in aging men vary depending upon the age, severity and duration of androgen deficiency, comorbid illnesses, androgen sensitivity, and previous testosterone therapy. Symptoms and signs suggestive of hypogonadism (Pic. 1) include loss of vitality, visceral obesity, decreased muscle mass and strength, osteopenia and bone pain, and mood changes and depression. Other nonspecific symptoms are decreased energy, motivation, and initiative, poor concentration and memory, sleep disturbance, increased sleepiness, increased body fat, and diminished physical or work capacity.

Associated diseases

- erectile dysfunction
- obesity
- testicular failure
- Klinefelter syndrome
- Kalimann syndrome
- oligozoospermia
- hypogonadism
- asperma
- varicocele
anorexia nervosa
thyroid disorders
hyperprostenism

Complications

Low testosterone is associated with dyslipidemia (an abnormal amount of lipids), hypertension (the blood pressure in the arteries is persistently elevated), obesity, and diabetes, all of which increase the risk of cardiovascular diseases. Lower testosterone levels were associated with adverse changes to carotid-intima medial thickness and ankle/brachial index as a measure of peripheral arterial disease and calcific aortic atheroma.

Risk factors

A number of risk factors are associated with low level of testosterone, for example:

- obesity
- central nervous system disorders
- head trauma
- pituitary or other types of brain tumors
- diabetes

Prevention

There are ways to encourage the proper levels of testosterone such as:

- proper diet - plenty of protein and healthy fats (avocados, fish, eggs and olive oil)
- reducing stress levels
- maintaining an optimal weight
- enough exercise
- enough sleep

How it can affect fertility

Spermatogenesis and ovulation in males and females, respectively, may be impaired by hypogonadism, which, depending on the degree of severity, may result in partial or complete infertility.

A man with low levels of testosterone may lose his desire for sex. Sexual stimulation and sexual activity cause testosterone levels to rise. Testosterone levels can drop during a long period of sexual inactivity.

Hypogonadism can involve just hormone production or just fertility, but most commonly involves both. Examples of hypogonadism that affect fertility more than hormone production are Klinefelter syndrome and Kartagener syndrome (a rare hereditary disease that causes defects in the action of cilia lining the respiratory tract and fallopian tube, as well as in the flagella of sperm cells).

Prognosis

Low levels of testosterone, with both occurring in hypogonadotropic hypogonadism (a secondary or central hypogonadism) may be treated by the administration of hormones and have a relatively good prognosis. It may be considered as a way to increase a fertility. But if we want to conceive a child, it is also important to follow a healthy lifestyle.

Find more about related issues

Diagnoses
Anorexia Nervosa
An eating disorder characterized by the maintenance of a body weight below average, fear of gaining weight, and a distorted body image. Learn more at: www.fertilitypedia.org/therapy/diag/anorexia-nervosa

Aspermia
Male diagnosis connected with male infertility characterised by the complete absence of semen. Learn more at: www.fertilitypedia.org/therapy/diag/aspermia

Erectile dysfunction
The inability (that lasts more than 6 months) to develop or maintain an erection of the penis during sexual activity. Learn more at: www.fertilitypedia.org/therapy/diag/erectile-dysfunction

Hyperestrogenism
An excessive amount of estrogenic activity in the body. Learn more at: www.fertilitypedia.org/therapy/diag/hyperestrogenism

Hypogonadism
A medical term which describes a diminished functional activity of the gonads – the testes and ovaries. Learn more at: www.fertilitypedia.org/therapy/diag/hypogonadism

Kallmann syndrome
A genetic condition where the primary symptom is a failure to start puberty or a failure to fully complete puberty. Learn more at: www.fertilitypedia.org/therapy/diag/kallmann-syndrome

Klinefelter syndrome
The set of symptoms that result from two or more X chromosome in males. Learn more at: www.fertilitypedia.org/therapy/diag/klinefelter-syndrome

Obesity
A disease of excess body fat that can have a negative effect on health, leading to reduced life expectancy and other health problems. Learn more at: www.fertilitypedia.org/therapy/diag/obesity

Oligozoospermia
Semen with a low concentration of sperm and is a common finding in male infertility. Learn more at: www.fertilitypedia.org/therapy/diag/oligozoospermia

Testicular failure
The inability of the testicles to produce sperm or testosterone. Learn more at: www.fertilitypedia.org/therapy/diag/testicular-failure

Thyroid disorders
A medical condition impairing the function of the thyroid. Learn more at: www.fertilitypedia.org/therapy/diag/thyroid-disorders

Varicocele
An abnormal enlargement of the pampiniform venous plexus in the scrotum. Learn more at: www.fertilitypedia.org/therapy/diag/varicocele
<table>
<thead>
<tr>
<th>Symptoms and associated morbidities</th>
<th>Cognitive, mood-related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional lability</td>
<td>Poorer in verbal and visual acuity</td>
</tr>
<tr>
<td>Decrease in sexual frequency and desire</td>
<td>Difficult in initiating sexual activity</td>
</tr>
<tr>
<td>Decreased sexual performance</td>
<td>Difficult in initiating sexual activity</td>
</tr>
<tr>
<td>Changes in sexual drive characteristics (e.g., desire)</td>
<td>Decreased energy</td>
</tr>
<tr>
<td>Change in sex drive</td>
<td>Mood in the morning</td>
</tr>
<tr>
<td>Decrease in sex drive</td>
<td>Decreased mood of vitality</td>
</tr>
<tr>
<td>Muscle, bone, and body composition</td>
<td>Other:</td>
</tr>
<tr>
<td>Progressive decrease in muscle mass</td>
<td>Sleep disturbances</td>
</tr>
<tr>
<td>Decreased physical function</td>
<td>Mood disturbances</td>
</tr>
<tr>
<td>Decrease in body composition</td>
<td>Mood disturbances</td>
</tr>
<tr>
<td>Increase in insulin</td>
<td>Decreased response to PDE5 inhibitors</td>
</tr>
</tbody>
</table>

**Sources**

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