ATROPHY OF THE TESTICLES

Testicular Atrophy, Testicular Shrinkage

A not-temporary condition in which the testes diminish in size and may be accompanied by loss of function.

♂ Symptom  ♂ Male

About Atrophy of the testicles

Testicular atrophy is a medical condition in which the testes diminish in size and may be accompanied by loss of spermatogenic function. This does not refer to temporary changes, such as those brought on by cold.

Testes are made up from germ cells and Leydig cells. Germ cells produce sperms and Leydig cells produce testosterone. A healthy male produces both cell types in equal proportions. When testes shrink, it is due to loss of one or both cell types.

Atrophic testes may be:

- Primary - due to an inherent testicular dysfunction (abnormal chromosomal condition).
- Secondary - due to a hormonal deficiency. Hormonal deficiency may be a result of hormonal imbalance (elevated follicle-stimulating hormone (FSH) level), radiation exposure, chronic steroid use (taking steroids by testosterone injections through an outside source makes a condition when body believes there is enough testosterone and thus leads to decreased testosterone production leading to reduced sperm production causing testicular atrophy).

Testicular atrophy is one of the symptoms of some sexually transmitted diseases, for instance HIV, gonorrhea and syphilis, or other infections, such as mumps. Other cause may be age or alcoholism. Natural aging is associated with gradual testicular shrinkage after childbearing age as a natural part of body aging. Chronic alcoholism may cause hepatic cirrhosis which affects testicular production of testosterone. These mechanisms lead to subsequent decrease in semen volume and sperm density.

Possible symptoms of testicular atrophy include painful testicles, infertility, sexual dysfunction or decreased libido.

Non-obstructive azoospermia

Non-obstructive azoospermia is defined as complete absence of sperm in the ejaculate due to testicular failure. The finding of atrophic testes and elevated FSH levels indicates germ cell failure. Patients with normal sperm production typically have FSH values in the lower end of the normal range, and levels above this should raise suspicion of a defect in spermatogenesis.

Testicular cancer

Testicular cancer is cancer that develops in the testicles, a part of the male reproductive system. Testicular atrophy following torsion of the spermatic cord has been reported to increase the risk of testicular cancer.

Varicocele

A varicocele is an abnormally dilated venous network that drains blood from the testicles. Varicocele is a major cause of male infertility, as it may impair spermatogenesis through several distinct physiopathological
mechanisms. The most common complication of untreated varicocele is higher temperature of the testes, resulting in testicular atrophy causing infertility.

**Orchitis**

Orchitis is inflammation of the testes. It can also involve swelling, heavy pains and frequent infection. Orchitis can be related to epididymitis infection that has spread to the testicles (then called "epididymo-orchitis"), sometimes caused by the sexually transmitted diseases chlamydia and gonorrhea. It has also been reported in cases of males infected with brucellosis (a zoonosis caused by ingestion of unpasteurized milk or undercooked meat from infected animals). Orchitis can also be seen during active mumps, particularly in adolescent boys.

Ischemic orchitis may result from damage to the blood vessels of the spermatic cord during inguinal herniorrhaphy, and may in the worst event lead to testicular atrophy.

**Testicular torsion**

Testicular torsion occurs when the spermatic cord (from which the testicle is suspended) twists, cutting off the testicle's blood supply, a condition called ischemia. The principal symptom is rapid onset of testicular pain. Testicular atrophy is a significant complication after untreated or delayed testicular torsion. Testicular trauma or a history of torsion should be noted, since both may result in atrophic testes.

**Hydrocele testis**

A hydrocele testis is an accumulation of clear fluid in the tunica vaginalis, the most internal of membranes containing a testicle. The long continued presence of large hydroceles causes atrophy of testis due to compression or by obstructing blood supply.

## Find more about related issues

**Organs**

**Testes**
Male gonads which produce both sperm and androgens, such as testosterone, and are active throughout the reproductive lifespan of the male.  
Learn more at: [www.fertlitypedia.org/edu/organs/testes](http://www.fertlitypedia.org/edu/organs/testes)

**Diagnoses**

**Varicocele**
An abnormal enlargement of the pampiniform venous plexus in the scrotum.  
Learn more at: [www.fertlitypedia.org/therapy/diag/varicocele](http://www.fertlitypedia.org/therapy/diag/varicocele)

**Non-obstructive azoospermia**
Complete absence of sperm in the ejaculate due to testicular failure.  
Learn more at: [www.fertlitypedia.org/therapy/diag/non-obstructive-azoospermia](http://www.fertlitypedia.org/therapy/diag/non-obstructive-azoospermia)

**Testicular cancer**
Cancer that develops in the testicles.  
Learn more at: [www.fertlitypedia.org/therapy/diag/testicular-cancer](http://www.fertlitypedia.org/therapy/diag/testicular-cancer)

**Orchitis**
An inflammation of the testes, involving swelling and heavy pains.  
Learn more at: [www.fertlitypedia.org/therapy/diag/orchitis](http://www.fertlitypedia.org/therapy/diag/orchitis)
Testicular torsion
Emergency medical condition occurring when the spermatic cord twists and cuts off the testicle's blood supply. Learn more at: www.fertilitypedia.org/therapy/diag/testicular-torsion

Hydrocele testis
An accumulation of clear fluid in the tunica vaginalis, the most internal of membranes containing a testicle. Learn more at: www.fertilitypedia.org/therapy/diag/hydrocele-testis

Gallery

Atrophic changes of the testis
The near normal seminiferous tubules with sperm are seen side-by-side with atrophic seminiferous tubules with a thickened basement membrane and on apparent sperm.

Sources
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