

Orchitis: Causes, Symptoms, and Complications of Testicular Inflammation

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DESCRIPTION

Orchitis is a condition characterized by inflammation of one or both testicles, typically caused by an infection. It can lead to discomfort, swelling, and pain in the affected testicle(s), as well as potential complications if left untreated. Orchitis can be acute or chronic, with various underlying causes ranging from bacterial and viral infections to non-infectious factors. Understanding the causes, symptoms, and potential complications of orchitis is crucial for prompt diagnosis and appropriate management of this condition.

Orchitis can be classified into two main types based on its underlying cause: Infectious and non-infectious orchitis.

Infectious orchitis

Bacterial orchitis: Bacterial infections, particularly those caused by sexually transmitted bacteria such as *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, can lead to bacterial orchitis. Other bacterial pathogens, including *Escherichia coli* and *Klebsiella pneumoniae*, can also cause orchitis, typically through ascending urinary tract infections or hematogenous spread.

Viral orchitis: Viral infections, most commonly mumps virus, are a leading cause of orchitis, particularly in post-pubertal males. Mumps orchitis typically occurs as a complication of mumps parotitis, with unilateral or bilateral testicular inflammation occurring several days after the onset of parotitis symptoms.

Sexually Transmitted Infections (STIs): Certain sexually transmitted infections, such as gonorrhea and chlamydia, can lead to epididymo-orchitis, characterized by inflammation of the epididymis and testicle(s). These infections are typically transmitted through sexual contact and can cause severe pain and swelling in the scrotum.

Urinary Tract Infections (UTIs): Bacterial infections of the urinary tract, including prostatitis and urethritis, can sometimes spread to the epididymis and testicle(s), resulting in orchitis.

This condition is known as ascending orchitis and is often associated with symptoms such as dysuria, urinary frequency, and fever.

Non-infectious orchitis

Traumatic orchitis: Trauma or injury to the testicle(s), such as blunt force trauma or testicular torsion, can lead to inflammation and swelling of the affected testicle(s). Traumatic orchitis may occur as a result of sports injuries, accidents, or physical trauma to the groin area.

Autoimmune orchitis: Autoimmune diseases, such as Systemic Lupus Erythematosus (SLE) or vasculitis, can cause inflammation of the testicle(s) due to immune-mediated mechanisms. Autoimmune orchitis may occur in the absence of infection and is characterized by chronic inflammation and fibrosis of the testicular tissue.

Symptoms of orchitis

The presentation of orchitis can vary depending on its underlying cause, severity, and duration. However, common symptoms of orchitis may include

Testicular pain and tenderness: Pain and discomfort in one or both testicles are hallmark symptoms of orchitis. The pain may be mild to severe and may worsen with movement or palpation of the affected area.

Swelling and enlargement of the testicle(s): Orchitis often leads to swelling and enlargement of the affected testicle(s), which may appear red, warm, and tender to the touch.

Scrotal inflammation: Inflammation of the scrotum, characterized by redness, warmth, and edema, may accompany orchitis due to the spread of inflammation from the testicle(s) to the surrounding tissues.

Fever and chills: Systemic symptoms such as fever, chills, and malaise may occur in cases of severe or systemic orchitis, particularly in cases of bacterial or viral orchitis.

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Dysuria and urinary symptoms: In cases of orchitis secondary to urinary tract infections or sexually transmitted infections, patients may experience dysuria (painful urination), urinary frequency, and urgency.

Complications of orchitis

Untreated or inadequately managed orchitis can lead to various complications, including

Abscess formation: Severe bacterial orchitis may lead to the formation of abscesses within the testicle(s) or surrounding tissues, requiring drainage and antibiotic therapy to prevent systemic spread of infection.

Infertility: Chronic or recurrent orchitis can result in testicular damage, impaired spermatogenesis, and infertility in some cases. Inflammation and fibrosis of the testicular tissue may lead to reduced sperm production and impaired sperm quality, affecting fertility.

Testicular atrophy: Prolonged inflammation and scarring of the testicle(s) can lead to testicular atrophy, characterized by

shrinkage and loss of testicular volume. Testicular atrophy may result in permanent impairment of testicular function and hormone production.

Chronic pain: Persistent or recurrent orchitis may lead to chronic testicular pain syndrome, characterized by ongoing discomfort, tenderness, and pain in the affected testicle(s). Chronic orchitis can significantly impact quality of life and may require long-term pain management strategies.

CONCLUSION

Orchitis is a common condition characterized by inflammation of the testicle(s), often caused by bacterial, viral, or non-infectious factors. Prompt diagnosis and appropriate management of orchitis are essential to prevent complications such as abscess formation, infertility, testicular atrophy, and chronic pain. Healthcare providers should be vigilant for signs and symptoms of orchitis, particularly in cases of urinary tract infections, sexually transmitted infections, or recent mumps exposure, and promptly initiate appropriate diagnostic and treatment measures to optimize patient outcomes.