

Andrology Solutions: Infections

INFECTIONS OF THE GENITAL TRACT

Many infections of the genital tract may reduce male fertility, and in some circumstances cause infertility. They may be associated with spontaneous abortion in your partner, early miscarriage and pre-term birth, birth defects and even stillbirth.

Such infections are very common and the majority are acquired from the body's own microbial flora such as *E. coli*, *Klebsiella spp* *Staphylococci* and *enterococci*. However, just by being intimate with our family and friends we share their rich microbial flora such as *Neisseria meningitidis* and one of many herpes viruses called cytomegalovirus (CMV) which can cause miscarriage, birth defects and learning difficulties.

Causes

Many infections of the reproductive tract are sexually transmitted. Indeed, most sexually active adults are exposed to sexually transmitted infections at some time in their lives. The main causes of sexually transmitted infections these days are *Chlamydia trachomatis*, *Ureaplasma urealyticum*, *Mycoplasma spp.* and gram-negative bacteria causing general urinary tract infection. Mycoplasmas are associated with spontaneous abortion and early miscarriage while some infections, such as *Chlamydia* and *Ureaplasma*, have been associated with pregnancy loss after the 12th week. *Ureaplasma* may also be a cause of birth defects and stillbirth. *Candida albicans*, the organism that causes thrush, may not affect sperm count or motility, but may cause genetic (DNA) damage and affect fertilization during IVF treatment. Genital Herpes reduces sperm motility.

Micro-organisms and the products they secrete cause damage to the reproductive tract and cause male infertility in the following ways:

- impairs sperm parameters and sperm function
- affect seminal fluids which are important for sperm transport and function
- cause inflammation and production of unstable free radicals that cause sperm DNA damage and abnormal shape
- damages reproductive system and may cause obstruction resulting in no sperm in the ejaculate (azoospermia)

- may trigger sperm antibody production (immunological infertility)
- if transmitted to female will induce female infertility
- decreases fecundity and increases rate of miscarriage
- may cause birth defects

Symptoms

Symptoms may include a urethritis, urethral discharge, dysuria, discomfort or pain and swelling. However, in many cases, there may be no symptoms at all, the so-called silent infections. Indeed 80% of Chlamydia infections in women and 50% in men have no symptoms. Silent infections may be present in as many as 20% men with fertility issues.

Investigation

This usually involves a urine and blood test. Depending on your history, further investigation may be required

Treatment

Most diagnosed bacterial infections can be treated effectively with antibiotics. Quite often, a urethritis is diagnosed without an organism being isolated. In these cases of non-specific urethritis (NSU) antibiotics are often prescribed, which may or may not be effective against the organism. Symptoms may be reduced, but the organism is still present. If the infection has been left untreated for a long period of time, the damage may be irreversible.

PROSTATITIS and MALE ACCESSORY GLAND INFECTION (MAGI)

Prostatitis is an inflammation of the prostate gland, which forms part of the reproductive system. Inflammation of the prostate is very common and it has been reported that as many as one in two men will have prostate disease at some point in their lives. More recently, it appears that prostatitis may also affect fertility

Infection or inflammation of the accessory glands (MAGI) such as the prostate and seminal vesicles occurs twice as often in the male partner of infertile couples than in fertile men. It is thought that MAGI could affect male fertility by reducing sperm count and motility as well as affecting accessory gland function. Furthermore, cells produced as part of the inflammatory process, are the main source of unstable free radicals which are known to damage sperm DNA and sperm shape, and may also decrease the sperm's ability to interact with the egg. MAGI is also associated with sperm antibodies and may lead to a long-lasting inflammation of the prostate or pelvic organs.

Causes

Prostatitis is a very difficult condition to diagnose, even after carrying out in depth investigation. It may be caused or affected by:

- Infection
- Stone or crystal formation
- Scarring of the bladder neck
- Urine passing back into the prostate
- Nerve damage
- Trauma
- Stress
- Allergy
- Diet

Symptoms

You may experience any combination of a range of symptoms including increased frequency of urination, occasional discomfort, pain or aching in the testicles, urethra, lower abdomen and back area, fertility issues etc. Pain or discomfort on urination or ejaculation is quite common. Some men may even stop having sex due to prostate

pain and the constant aching after ejaculation.

Investigation

A procedure called a prostatic massage is used to obtain a sample of prostatic secretions. The prostatic samples and a subsequent urine and semen sample are examined for a range of substances such as pus, blood, reflux of urine, crystals, stones (similar to the kidney), bacteria, fungi and parasites.

Treatment

Although prostatitis may not always be treated, in some cases, it is possible to reduce the symptoms by managing stress, improving diet and treating with antibiotics if appropriate