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 Note on male infertility

Infertility is a condition with psychological, economic, medical implications resulting in trauma, stress, particularly in a social set-up like ours, with a strong emphasis on childbearing. According to the International Committee for Monitoring Assisted Reproductive Technology, World Health Organization (WHO), infertility is a disease of reproductive system defined by failure to achieve the clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Infertility can be divided into primary infertility and secondary infertility. Primary infertility is the case, when the man has never impregnated a woman. Secondary infertility applies when the man has some time impregnated a woman, even if the women are not the partner in the present couple. The male infertility can be complete or partial termed as subfertility.

 Signs of Potential Infertility in Men

• Changes in hair growth.

• Changes in sexual desire.

• Pain, lump, or swelling in the testicles.

• Problems with erections and ejaculation.

• Small, firm testicles.

Causes and Risk Factors of Infertility

The major causes of infertility identified to be testicular failure, obstruction, cryptorchidism, low semen volume, sperm agglutination, idiopathic infertility, varicocele, erectile or ejaculatory dysfunction, abnormal viscosity, endocrine disorder, high density of sperm, congenital abnormalities and environmental causes broadly the caused factors for male infertility can be divided into non-genetic and genetic factors. Among the non-genetic factors previous exposure to disease which influences the fertility either directly or indirectly. Diabetes is associated with increased sperm nuclear damage that may impair the reproductive capability of these men. Testicular function is temperature dependent and requires a temperature 2°C to 4°C below body temperature. Fever exceeding 38°C can also affect the spermatogenesis for the succeeding six months.

1. Genetic causes: The genetic basis of infertility has received increasing recognition in recent years. Several kinds of chromosomal abnormalities are associated with infertility: deletion, inversion, mutation, aneuploidy, and translocation. Of these, translocation is most common chromosomal abnormality.

2. Life style; Lifestyle factors are amendable habits and ways of life that can greatly influence overall health and wellbeing, including fertility. Advancing paternal age, occupation has been implicated in a broad range of abnormal reproductive and genetic outcomes. Lifestyle factors, including age when starting a family, nutrition, weight management, exercise, psychological stress, cigarette smoking, recreational and prescription drugs use, alcohol and caffeine consumption, may impact fertility

3. Obesity: Obesity is a worldwide problem and levels are intensifying all over the world. To classify the overweight and obesity in adult population and individuals, body mass index (BMI) is a simple index of the weight-to-height ratio. Infertility is more prevalent among men with elevated BMIs.

4. Recreational drugs: Cocaine exposure of males before the wife conceives is linked to abnormal development in the offspring, since cocaine can bind with high affinity to human spermatozoa.

 Treatments for male infertility include:

• Surgery. For example, a varicocele can often be surgically corrected or an obstructed vas deferens repaired. ...

• Treating infections. ...

• Treatments for sexual intercourse problems. ...

• Hormone treatments and medications. ...

• Assisted reproductive technology (ART)

 NOTE ON MALE ORGASM

 Orgasms can be defined in different ways using different criteria. Medical professionals have used physiological changes to the body as a basis for a definition, whereas psychologists and mental health professionals have used emotional and cognitive changes

 Several hormones that are released during orgasm have been identified, such as oxytocin and DHEA; some studies suggest that these hormones could have protective qualities against cancers and heart disease. Oxytocin and other endorphins released during male and female orgasm have also been found to work as relaxants. Premature ejaculation in men is closely associated with an orgasm. Premature ejaculation is a common sexual complaint, whereby a man ejaculates (and typically orgasms) within 1 minute of penetration, including the moment of penetration itself.

 Premature ejaculation is likely to be caused by a combination of psychological factors such as guilt or anxiety, and biological factors such as hormone levels or nerve damage.

 The male orgasm is a complex system involving multiple hormones, organs, and nerve pathways.

The hormone testosterone, produced in the testicles, plays a central role by enhancing the sexual desire (libido) that leads to arousal, erection, and ultimately orgasm. By contrast, low testosterone not only decreases a man's energy and mood, it makes him less responsive to sexual stimuli, both physical and mental.

4 Phases of the Male Orgasm

1. Arousal

Arousal is the stage in which physical, sensory, and emotional cues prompt the brain to release a neurotransmitter known as acetylcholine. This, in turn, triggers the release of nitric oxide into the arteries of the penis, causing them to expand and rapidly fill with blood. The resulting erection is generally accompanied by changes in respiration, increased overall muscle tension, and the retraction of the scrotal sac.

1. Plateau

Plateau is the phase immediately preceding orgasm in which the voluntary thrusts of the body, specifically the pelvis, suddenly become involuntary, increasing both in intensity and speed.2﻿ It is at this stage that the heart rate increases to between 150 and 175 beats per minute, accompanied by a marked rise in blood pressure and body temperature. Traces of seminal fluid ("pre-cum") may leak from the urethra. The release of pre-ejaculatory fluid is more than just incidental; it alters the pH of the urethra so that the sperm has a better chance of survival.All told, the plateau phase lasts between 30 seconds and two minutes.

1. Orgasm

The orgasm phase is divided into two parts. The first, known as emission, is the stage where ejaculation is inevitable. This is immediately followed by the second stage, ejaculation, in which strong contractions of the penile muscle, anus, and perineal muscles help propel the semen from the body. During orgasm, the reward center of the brain (specifically the cerebellum, amygdala, nucleus accumbens, and ventral tegmental area) is flooded with neurochemicals, inciting the intense emotional response associated with an orgasm. At the same time, the lateral orbitofrontal cortex located behind the left eye shuts down entirely. This is the part of the brain that plays a central role in judgment and self-control. The effect explains why people often describe an orgasm as a state where "nothing else matters."

1. Resolution and Refraction

Resolution is the phase following orgasm where the penis starts to lose its erection. This is often accompanied by feelings of extreme relaxation or even drowsiness.

Refraction, also known as the refractory period, is the stage following climax when a man is unable to achieve another erection even with stimulation. In younger men, the refractory period may be as short as 15 minutes. In older men, it may last as long as an entire day.

 Male Multiple Orgasms

"Multi orgasmic" is a term used to describe the ability to have more than one orgasm within the span of minutes or seconds. The orgasm may not involve actual ejaculate but must include the physiological and emotional components of ejaculation.

The multi orgasmic state can be classified in one of two ways:

* Condensed, in which two to four individual and defined orgasms occur within a few seconds to two minutes
* Sporadic, in which refraction is delayed and multiple orgasms can be achieved within the span of several minutes

Beyond age, there are several factors commonly noted in multi orgasmic men. These include the use of psychoactive drugs, having multiple partners, having novel sex partners, and the use of sex toys to enhance tactile stimulation.

 Causes

It is commonly held that orgasms are a sexual experience, typically experienced as part of a sexual response cycle. They often occur following the continual stimulation of erogenous zones, such as the genitals, anus, and perineum.

Physiologically, orgasms occur following two basic responses to continual stimulation:

* Vasocongestion: the process whereby body tissues fill up with blood, swelling in size as a result.
* Myotonia: the process whereby muscles tense, including both voluntary flexing and involuntary contracting.

There have been other reports of people experiencing orgasmic sensations at the onset of epileptic medicine, and foot amputees feeling orgasms in the space where their foot once was. People paralyzed from the waist down have also been able to have orgasms, suggesting that it is the central nervous system rather than the genitals that is key to experiencing orgasms.

 Male orgasmic disorders

Also referred to as inhibited male orgasm, male orgasmic disorder involves a persistent and recurrent delay or absence of orgasm following sufficient stimulation.

Male orgasmic disorder can be a lifelong condition or one that is acquired after a period of regular sexual functioning. The condition can be limited to certain situations or can generally occur. It can occur as the result of other physical conditions such as heart disease, psychological causes such as anxiety, or through the use of certain medications such as antidepressants.