

IDENTIFICATION OF FACTORS AFFECTING REPRODUCTIVE HEALTH IN MEN

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Annotation:Currently, people of reproductive age all over the world face the problem of not having children in a couple, and in 50% of cases, the primary cause of this *оказы вается* is male pathology. Given the downward trend in the demographic situation in Uzbekistan, this problem cannot be ignored and is quite relevant today. This fact is confirmed by the absence of pregnancy in about 15-20% of married couples who are married. The indicator of the level of male infertility varies in values of about 20-45%. Experts attribute such high rates to the adverse effects of the environment on men, allergenization of the modern population, especially in large cities, as well as an increase in inflammatory processes of the genitourinary system in both men and women [1]. The article deals with the main issues of etiopathogenesis, diagnosis and treatment of disorders of male reproductive function on the basis of an interdisciplinary approach, taking into account organizational and methodological aspects.

Key words:Reproductive system, infertility, diagnostics, spermogram.

Male infertility is a multifactorial syndrome that includes a wide range of disorders, a symptom of many different pathological conditions affecting both the sexual and other body systems: endocrine, nervous, circulatory, and immune. For many risk factors, including varicocele and prostatitis, the relationship with infertility in general remains unproven [5, 6]. The same factors, depending on the genetic characteristics of men, can either reduce fertility or not. For example, microdeletions of some mitochondrial genes, insufficiency of heat shock proteins, expression of caspases, Bak, p53, and a number of other factors that resist oxidative stress and disrupt the proliferation – apoptosis ratio have been described as predisposing factors for infertility in varicocele (Chang et al., 2010; Li et al., 2011; Guo et al., 2012; Gashti et al., 2013, et al.). Genetic defects that reduce male fertility are now the subject of active research.

In recent years, it has become clear that poor sperm quality is the reason not only for the absence of pregnancy, but also for fetal development disorders, congenital anomalies, and even cancer in children [2, 5, 7]. This is based on violations of the structure of sperm chromatin. The probability of fertilization in vivo and during intrauterine insemination is close to zero if the number of sperm cells with damage (fragmentation) DNA exceeds 25-30%. Up to 40% of miscarriages can be predicted by evaluating the integrity of sperm DNA. Recent meta-analyses of published papers on the role of DNA fragmentation have shown that the risk of spontaneous abortions and fetal development disorders increases 2.2-3.9 times with increased sperm DNA fragmentation (the norm is 20-30%, depending on the methods used), even after IVF and ICSI [10]. There is a positive correlation between DNA fragmentation and the percentage of pathological forms, and a negative correlation with motility, but increased DNA fragmentation can occur even in "normozoospermia" [2].

DNA damage can be due to internal or external factors. Internal – lack of protamines and topoisomerases; external – tobacco smoking, infectious and inflammatory processes of the reproductive tract, testicular overheating, varicocele, antisperm antibodies, diabetes, etc. The basis of exogenous damage is hyperproduction of reactive oxygen species (ozone, hydrogen peroxide, nitric

oxide), which leads to oxidative stress of spermatozoa [1, 4, 5, 7, 8]. Single-or double-stranded DNA breaks, which lead to reduced fertility and developmental abnormalities, occur in OS against the background of insufficient antioxidant systems and DNA repair mechanisms. Despite the fact that during about 6 months of regular active sexual activity without contraception, conception occurs in 80%, but still this problem does not remain aloof [2]. The possibility of conception in men and women decreases with age. parameter s (also known as) (sperm counts decline after the age of 35 in men, but still the ability to conceive persists until the age of 50 or more. In women after the age of 30, the ability to conceive a child decreases with each subsequent year, for example, in 20-year-old women, the ability to conceive is two to three times higher. The goals of diagnosing male infertility after 12 months of regular sexual activity are as follows: First, it is a confirmation of infertility with various methods of examination of men. Finding out the reasons that caused this problem, since male infertility can be as a result of various diseases. Treatment of such diseases implies almost complete restoration of the male reproductive system, but this does not happen in all cases. The duration of infertility examinations should not exceed 6 months. There is a concept as idiopathic infertility, it includes the absence of objective causes of infertility or the inability to recognize them. Primary infertility is one of the most important factors in the unfavorable prognosis of male infertility, as well as reduced ejaculate counts, the duration of infertility, in particular primary, for more than two years, and reduced fertility of a permanent sexual partner. That is why both men and women are subject to infertility testing at the same time, and specifically female fertility should be evaluated when planning the diagnosis and treatment of male infertility. It is worth noting that a healthy lifestyle, the absence of pathological stress, obesity, a balanced diet and the absence of bad habits such as smoking, alcohol, drugs, play an important role in the formation of infertility. Because it all affects the state of the sperm. But let's not forget that in addition to the above, pathozoospermia is affected by excessive heat exposure to the testicles, for example, in the presence of varicocele. But infertility is also affected by congenital or acquired abnormalities of the genitourinary organs, such as cryptorchidism, viral orchitis, testicular torsion, various chemo- and radiotherapy, Muller's prostatic cysts, testicular appendage obstruction, and congenital VAS deferens aplasia. Genitourinary tract infections, various endocrine and genetic disorders also affect male infertility [3]. Primary diagnosis includes the collection of complaints and the patient's medical history. It is necessary to specify the frequency of sexual acts and their time interval [4]. The highest percentage of conception is observed with a frequency of sexual acts about 2-4 times a week.

Periods of abstinence for 4-5 days negatively affect the possibility of conception and the reproductive system as a whole. For example, for a woman, a six-day interval that ends on the day of ovulation is optimal for conception, since the huge probability of conception is noted 2-3 days before ovulation [5]. When collecting anamnesis of men who complain of infertility, it is necessary to assess secondary sexual characteristics, the state of the urinary glands to exclude gynecomastia and neoplasms, constitutional status, hair development, external genitalia to clarify the location of the urethra. Together with this, palpation of the testicles and appendages, vas deferens, an increase in testicular volume and the absence of varicocele, which also affects infertility, are performed. In laboratory diagnostics, a significant role is played by the assessment of ejaculate by means of a spermogram. But even men who have normal sperm counts may be at risk of infertility due to a violation, for example, of the fertilizing ability of the spermatozoa themselves сперматозоидов, genetic defects, or other factors that hinder the formation, development, and implantation of embryos. The diagnosis, in turn, includes a blood test, which allows you to determine the level of sex hormones. To exclude endocrine causes of infertility, it is recommended to consult an

endocrinologist. Patients with such pathologies as oligozoospermia (<10 million spermatozoa/ ml) and azoospermia need to consult a geneticist and conduct a karyotype analysis when detecting chromosomal abnormalities. Instrumental diagnostics, in addition to physical examination, includes ultrasound diagnostics of the scrotum organs. It can detect signs of vas deferens obstruction, such as a testicular appendage cyst or testicular network dilation, and also helps confirm the presence of varicocele, hypoplasia, and дисгенезия testicular dysgenesis. Sometimes doctors use such a study as transrectal ultrasound. It allows you to visually identify prostate cysts and dilated seminal vesicles, if present, which can confirm obstruction of the ejaculatory ducts in men with reduced ejaculate volume [6].

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