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Changes in the sexual activity of men with COVID-19

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ABSTRACT

Erectile dysfunction (ED) is a common form of sexual dysfunction that significantly impacts both the physical and mental well-being of the affected man and his partner. This, in turn, can lead to social maladjustment. The pathogenesis of erectile dysfunction is multifactorial, encompassing arterial, neurogenic, hormonal, cavernous, iatrogenic, and psychogenic causes.

In light of the coronavirus pandemic, complications related to COVID-19 are being increasingly observed. These complications not only involve the respiratory system but also include urogenital manifestations and issues, particularly the potential impact of coronavirus infection on male fertility.

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COVID-19 bilan kasallangan erkaklar jinsiy faoliyatidagi o‘zgarishlar

Kalit so‘zlar:
COVID-19,
koronavirus infeksiyasi,
erektil disfunksiya,
erkaklarning fertilligi,
pandemiya,
testosteron.

ANNOTATSIYA

Erektil disfunksiya – jinsiy zaiflikning keng tarqalgan turi bo‘lib, u erkak va uning ayoli hayotining jismoniy va ruhiy tomonlariga ta’sir qiladi, bu esa o‘z navbatida shaxsning ijtimoiy moslasha olmasligiga olib kelishi mumkin. Erektil disfunksiyaning patogenezi ko‘p omillarga bog‘liq bo‘lib, arterial, neyrogen, gormonal, kavernoz, yatrogen va psixogen sabablarni o‘z ichiga oladi. Koronavirus pandemiyasi bilan bog‘liq holda, COVID-19 asoratlari nafaqat nafas olish tizimidagi shikastlanish belgilari, balki urogenital ko‘rinishlar va asoratlar, xususan, korona virus infeksiyasining erkaklar fertilligiga ta’siri bilan ham tez-tez paydo bo‘lmoqda.

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Изменения в сексуальной активности мужчин с COVID-19

Ключевые слова:
COVID-19,
коронавирусная инфекция,
эректильная дисфункция,
мужская фертильность,
пандемия,
тестостерон.

АННОТАЦИЯ

Эректильная дисфункция является распространенным типом сексуальной дисфункции, затрагивающим физические и психические аспекты жизни как самого мужчины, так и его партнерши. Это, в свою очередь, может привести к социальной дезадаптации личности. Патогенез эректильной дисфункции носит многофакторный характер и включает артериальные, нейрогенные, гормональные, кавернозные, ятрогенные и психогенные причины.

В условиях пандемии коронавируса всё чаще выявляются осложнения COVID-19, которые проявляются не только поражением дыхательной системы, но и урогенитальными нарушениями. В частности, фиксируется влияние коронавирусной инфекции на мужскую фертильность.

Erectile dysfunction is a widespread type of sexual dysfunction that affects the physical and mental aspects of the life of both the man himself and his partner, which, in turn, can lead to social maladaptation of the individual [1, 3, 4].

Enough data indicates that erectile dysfunction (ED) is a polyetiological condition. Three main key factors can contribute to the development of ED to a large extent: systemic diseases, medication, and unfavorable lifestyle factors (diet, smoking, physical inactivity). It should be noted that age will not act as a determining factor in the development of ED. According to the results of epidemiological studies, with age in men, an increase in the frequency of somatic burdens is recorded, including arterial hypertension (AH), coronary heart disease (CHD), diabetes mellitus (DM), overweight, and other metabolic factors that hurt erectile function. [2, 5, 6].

Scientists at the University of Miami have revealed the impact of COVID-19 on potency [7, 8, 9, 10, 12]. The results of the study showed that the coronavirus persists in the tissues of the penis for a long time after recovery, which can lead to erectile dysfunction [3, 7, 8, 9, 11]. All this determines the relevance of an integrated approach to the diagnosis of erectile dysfunction to verify the true cause.

The purpose of the study is to establish post-covid changes in erectile dysfunction in men.

MATERIAL AND RESEARCH METHODS

From 2021 to 2022, 46 men who had COVID-19 pneumonia were consulted in the urology department of the clinic of the Andijan State Medical Institute. The duration of the disease ranged from 3 to 6 months. For comparison, a control group of 12 men who did not have COVID-19 pneumonia was taken. The age of the patients ranged from 38 to 57 years. All of them had at least one PCR-positive respiratory swab for COVID-19. Anamnestic ally, all patients, based on computed tomography (CT) of the chest, were diagnosed with pneumonia of varying severity.

The diagnostic complex included a physical examination, general blood and urine tests, a biochemical blood test, an ultrasound examination of the prostate gland and scrotum organs, a study of the level of a common prostate-specific antigen, an analysis of hormonal status – total level of testosterone (T), luteinizing hormone (LH) was determined, prolactin (P), ejaculate (sperm) smear examination.

Patients were surveyed using the following questionnaires: IIEF (The international index of erectile function, International Index of Erectile Function, IIEF-5); IPSS (International Prostate Symptom Score, International Prostate Symptom Index, a scale for the overall assessment of prostate diseases); AMS (Aging Males Symptoms, Male Aging Symptoms Questionnaire).

The results of the study showed that 46 patients who recovered from COVID-19 pneumonia complained of a pronounced decrease in libido, erectile function and the quality of sexual intercourse after the illness. The consequences of COVID-19 in 8 patients were expressed in the absence of morning erection, complete dissatisfaction from sexual intercourse, and the absence of libido.

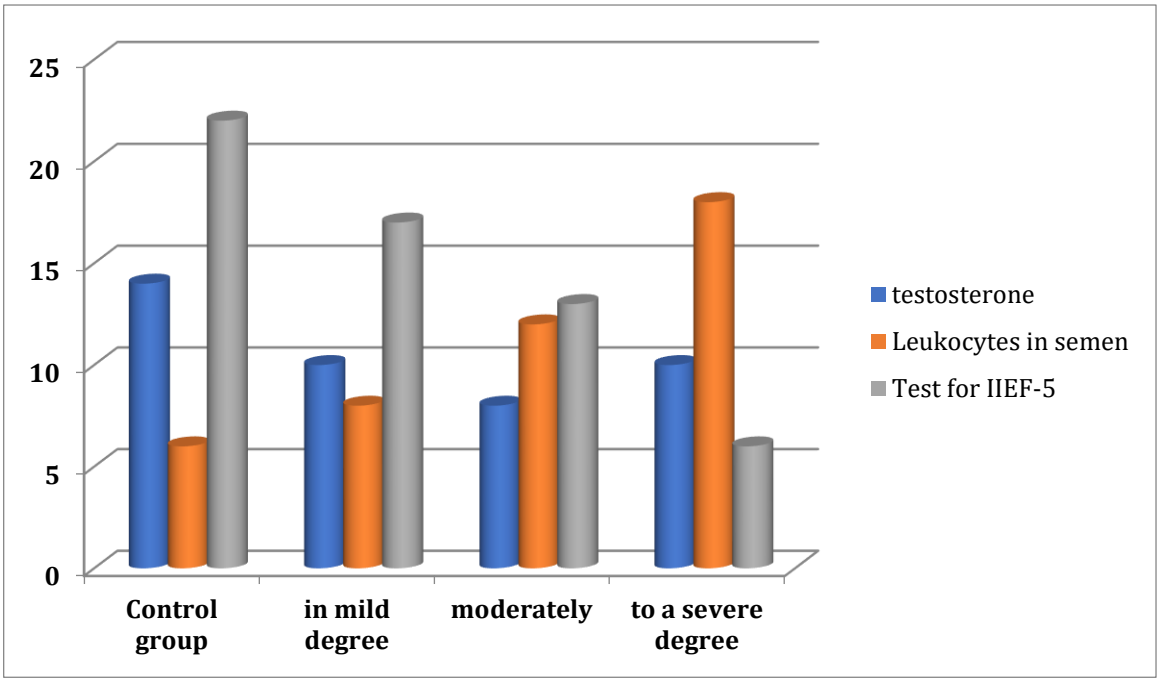
The laboratory level of testosterone in men of the control group was 12.0-14.0 nmol/l, which is the norm according to the recommendations of ISSAM (International Society for the Study of Aging and Men's Health).

The laboratory level of testosterone in the men of the examined group was different depending on the severity of the course of the COVID -19 disease in the anamnesis: for example, in 8 patients who were treated in COVID intensive care using non-invasive mechanical ventilation in the CPAP mode (constant positive airway pressure mode – Continuous Positive airway Pressure), was lower – from 4 to 6 nmol/l; in 6 patients who were on support with moistened O_2 in history, testosterone was 8 nmol /l; in 32 patients who underwent a mild course of COVID -19, testosterone levels ranged from 8.67 to 10 nmol / l. Based on these data, it can be assumed that COVID infection has a negative impact on erectile function, reducing testosterone levels.

Table 1.

Diagnostic criteria by groups

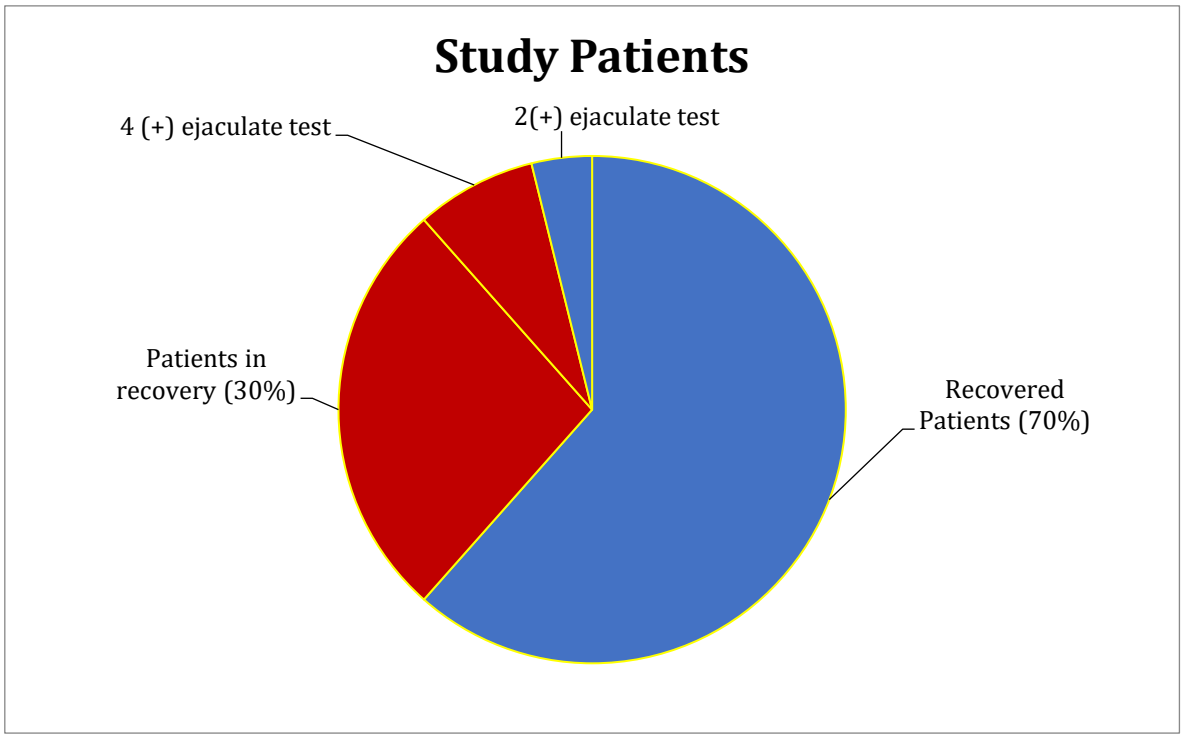
Study	Control group	Patients who have undergone COVID -19		
		In mild degree	Moderately	To a severe degree
number of subjects (men)	12	32	6	8
testosterone (nmol /l)	12-14	8.48-10.0	7.11-8.37	8.67-10.0
prostate secret leukocytes	4-6	5-8	10-12	in great numbers
prostate secret bacteria	-	+	+	++
test for IIEF-5 (In points)	19-23	16-18	12-14	5-7
IPSS questionnaire	6	9	12	14



Pic. 1. Diagnostic criteria by groups

SARS-CoV-2 is a new B-coronavirus that is believed to have originated in bats, but the intermediate between them and humans has not yet been identified. It is highly contagious, and the main routes of transmission are contact and airborne. The incubation period for SARS-CoV-2 ranges from 2 to 14 days.

The SARS-CoV-2 virus has been detected in the ejaculate of COVID-19 patients, both convalescent and acutely ill.



Pic. 2. Detection of SARS-CoV-2 in semen.

As can be seen from the diagram, out of 46 patients, 32 (70%) patients considered themselves to be quite healthy, and 14 (30%) were in the recovery stage. As a result, 6 (42.8 %) patients tested positive for SARS-CoV-2 in semen, including 4 (28.5%) of 14 patients in the acute period and 2 (6.25 %) of 32 recovered patients.

Based on the above, it can be concluded that the coronavirus persists in the tissues of the penis for a long time after recovery, which can lead to erectile dysfunction. We believe that this occurs as a result of a violation of the blood supply to the mucous membrane of small blood vessels, the tissues fed by them cease to be normally supplied with blood and lose their functions. This dysfunction of the blood vessels can lead to the development of impotence in men who have recovered from COVID-19.

FINDINGS:

1. Coronavirus SARS-CoV-2 can seed the male reproductive tract and persist in it for a certain time.

2. The degree of damage to the reproductive tract by coronavirus depends on the severity of the course of the transferred COVID-19 infection.

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