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HORMONAL AND METABOLIC PROFILE AND GINGEN S INSOMNIA RASTROYSTVAMI AND MENOPAUSE

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With the onset of menopause, 25–54% of ginseng otmechayut te ili inye problemy, svyazannye so snom, chto znachitelno snijaet kachestvo jizni. Tselyu obzora yavilsya analiz dannyx literatury otnositelno hormonalno-metabolicheskogo profilya genshchin v klimakterichеskom periode s narusheniyami sna. Pozano, chto u ginseng s insomnicheskimi rasstroystvami narushena rabota serotoninergicheskikh mozgovykh sistem, izmenena vyrabotka melatonina i activitiy svobodno-radikalnogo oxisleniya lipidov, chto mojet privodit k formirovaniyu razlichnyx zabolevaniy.

Key words: *insomnia , menopause, melatonin, oxidative stress*

HORMONAL-METABOLIC PROFILE IN MENOPAUSAL WOMEN WITH INSOMNIA

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25–54% of menopausal women have sleep problems that significantly reduce the quality of life. The aim of the review was to analyze the literature about the hormonal-metabolic profile of menopausal women with sleep disorders. It was shown that brain serotonergic systems are disrupted, melatonin production and activity of free-radical oxidation of lipids are altered in women with insomnia. This may lead to the development of various diseases. ***Key words:*** *insomnia, menopause, melatonin, oxidative stress*

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ГОРМОНАЛЬНО-МЕТАБОЛИЧЕСКИЙ ПРОФИЛЬ И ГИНГЕН С БЕССОННИЦЕЙ, РАСТРОЙСТВАМИ И МЕНОПАУЗОЙ

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С наступлением менопаузы 25–54% женьшеня отмечают те или иные проблемы, связанные со сном, что существенно снижает качество жизни. Целю обзора явился анализ данных литературы относительно гормонально-метаболического профиля генщин в климактерическом периоде с нарушениями сна. Позано, что у женьшеня с бессонными расстройками нарушена работа серотонинергических мозговых систем, изменена выработка мелатонина и активность свободно-радикального оксисления липидов, что может привести к формированию различных заболеваний.

Ключевые слова: бессонница, менопауза, мелатонин, окислительный стресс.

ГОРМОНАЛЬНО-МЕТАБОЛИЧЕСКИЙ ПРОФИЛЬ У ЖЕНЩИН В МЕНОПАУЗЕ С БЕССОННИЦЕЙ

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25–54% женщин в период менопаузы страдают от нарушений сна, значительно снижающих качество жизни. Целью обзора был анализ литературы о гормонально-метаболическом профиле женщин в период менопаузы с нарушениями сна. Было показано, что у женщин с бессонницей нарушена работа серотонинергической системы головного мозга, изменена выработка мелатонина и активность свободнорадикального окисления липидов. Это может привести к развитию различных заболеваний. Ключевые слова: бессонница, менопауза, мелатонин, окислительный стресс

With the onset of menopause, 25–54% of ginseng report te ili inye problems, related to pregnancy, compared to 15% of ginseng in the fertile age [23]. Britanskimi

uchenymi vyyavleno, chto jenshchiny, v stupivshie v period menopausal, v 3.4 times chashche pred'yavlyayut jaloby na narushenie sna, chem jenshchiny v premenopauze [31]. V prospective krupnomassshtabnom issledovanii po insomnii , provennom uchenymi Meditsinskogo universiteta g. Legsinktona (SShA) in the middle of the bed in the age of 47 to 69 years, it has been proven that the main symptoms of insomnia in women and postmenopause (physiological or surgical) cause painful sleep [42].

The causes of insomnia are diverse: stress (psychophysiological insomnia), neurosis, psychological diseases (schizophrenia, manic-depressive psychosis, etc.), somatic diseases (for example, bronchial asthma, atopic dermatitis, gastroesophageal reflux disease), psychotropic (including snot) drugs, alcohol, toxic factors, endocrine-metabolic diseases, organic diseases of the brain (stroke, parkinsonism, hyperkinetic syndromes, epilepsy, swelling of the brain, etc.), painful phenomena, syndromes, driving and sleep (obstructive sleep apnea syndrome, motor disorders and sleep), external unfavorable conditions (noise, humidity, etc.), changing work, seasonal changes poyasov, narushenie hygiene sna [12].

Osoboe mesto sredi faktorov, vyzyvayushchikh insomniyu , prinadlejit depressii [39]. A key role in the pathogenesis of depression is played by disturbances in the functioning of the serotoninergic brain system. Depression can be caused by a lack of serotonin in the brain, a lack of it in the receptor sites, the inability of serotonin to reach the receptor sites, and a reduced level of tryptophan, which is involved in the synthesis of serotonin. Depression is caused not only by the majority of the causes of insomnia , but also by the few that have specific polysomnographic correlations. K nim otnosyatsya ukorochenie latentnogo periodo pervogo episode FBS (s 90 do ~ 44 min), snijenie dlitelnosti delta-sna v I cycle sna i v "alpha-delta" sne i rannee prevremennoe probujdenie. In the brain, ginseng contains less serotonin than in the brain. A decrease in the functional activity of serotonin receptors 5-NT2 and frontal, parietal, temporal and cingulate is shown. it's ginseng . Eti facty zaslujivayut osobogo vnimania, uchityvaya opredelyayushchuyu role dysfunction of serotonin in depression. In the formation of women, depressive disorders play a big role in the characteristics of hormonal status. Sex hormones play a determining role in sexual demorphism of the brain [24]. Izvestna neuroprotective role of female sex hormones, and chastnosti ix antioxidant and membranostabiliziruyushchie functions. Znachitelno influence of estrogens on synthesis and metabolism of all monoamines, and the highest level of serotonin. Female sex hormones are involved in the maturation of many brain functions, including mood, motor control, weight, and cognitive processes. Estrogeny vo mnogom opredelyayut osobennosti zhenskogo kharakarta i spetsifiku emotsionalno-affectivenykh reaktsii, reagirovanie na stressornye sobytiya. Vajneyshee znachenie sex hormones and pathogenesis of depression and ginseng clearly demonstrate depression, connected with reproductive cycles of ginseng [20].

Nesredstvennoe vliyanie izmenenia hormonalnogo balan na son ginschiny podverzdaetsya rezultatami issledovaniya PJ Murphy and SS Campbell (2007), who showed that ginseng in menopause is more nizkoe kachestvo sna assotsiirovano so

nizheniem urovnya estradiol i vovyshenim luteiniziruyushchego hormon [38]. The role of disturbance of vegetative regulation and ginseng climacteric period in the genesis of symptoms of insomnia is confirmed by the positive effect of replacement hormonal therapy and the process of podderjaniya sleep, ego longevity and effectiveness [49].

Izvestno, chto periodicheskoe cheredovanie estestvennogo sna i bodrstvovaniya otnositsya k sirkadnym rittamam i vo mnogom opredlyaetsya sutochnym izmeneniem osveshchennosti. Odnim iz osnovnykh regulyatorov circadnyx bioritmov yavlyaetsya melatonin, i narushenie ego secretsii privodit k izmeneniyu metabolicheskikh protsesov and formation of various diseases [3, 22, 41, 47]. Many researchers have shown that the level of endogenous melatonin decreases with age, so the secretion of this hormone does not decrease, and the production curve does not change, and gross morphological changes are observed in the epiphysis with the death and degeneration of cellular elements [1, 2, 4, 8]. Ovevidno, chto vrosastnaya dynamics melatonina nosit and basic adaptive character: ved po mere oslableniya vibrosa hormonov hypophyzom i ugasaniya deyatelnosti perifericheskih endokrinnykh zhelet prikakost v ix periodicheskom nochnom tormojenii snyaetsya i moget vovse ischeznut. Pokazano nalichie v epiphyze receptorov polovykh steroidov. In fact, the pineal gland actually receives feedback from circulating and blood hormones. Desynchronization of circadian activity of the epiphysis and age-related bleeding of melatonin and ginseng signal the development of pineal and hypophyseal control over ovarian cycle and progressive decrease in fertile function of ginseng [46]. According to American studies, melatonin and estrogens act on the principle of inverse relationship [23]. Ustanovleno, chto melatonin okazyvaet podavlyayushchee deytvie neposredstvenno na hypofiz, umenshaya osvobojdenie LG i FSG [5].

Rezultati issledovaniya, provennogo L.I. Maltsevoi s soavt . (2011). Odnako issledovatelyami ustanovleno, chto changes in the secretion of melatonin in the perimenopauseal period have a non-diagnostic character. It has 13% obsleduemyx ginseng imel mesto high uroven melatonin [14].

Many studies have shown the relationship between altered secretion of melatonin and disturbed sleep [2, 6, 36, 41, 28]. It has been shown that insomnia in the climacteric period is associated with increased levels of melatonin in blood [28]. Po dannym drugix avtorov, sochetanie klimaktericheskogo syndroma s narusheniyami sna soprovozdaetsya povysheniem ekskretsii 6-sulfatoximelatonina s mochoy u patsientok srednego vozrasta. The increase in the level of ego excretion in patients with age is related to disturbances in the climacteric syndrome [2]. V issledovanii O.P. Zavodnova s soavt . (2012) . Pri etom u ginseng s khronotipom "javoronki" zaregistrirovany naibolee sosokie pokaseteli melatonina sulfate v sutochnoy moche; naibolee nizkie pokazateli - it is "cool" [3]. Issledovaniyami NTs PZSRCh SO RAMN pokazano izmenenie tsirkadnoy ritmiki secretsii melatonina u genshchin s narusheniyami sna v perimenopauze , karakterizuyushcheesya sdvigom pika secretsii

s nochnogo vremeni sutok na rannie utrennie chasy. In addition to this, it is noted that soderjania and salivary fluid are abnormal in perimenopause and postmenopause [6].

According to some studies, the incomplete number may affect the indicators of free radical oxidation and lead to the development of oxidative stress [10, 13, 16, 21, 25, 26, 29], which in its turn represents a danger to the surrounding tissue and may play an important role in development and support inflammatory and destructive processes, increasing the manifestation of climacteric syndrome [15]. In the nastoyashchee vremya menopause rassmatrivatsya kak factor riska razvitiya okislitelnogo stressa, cht o vyazyvayut s hypoestrogeniei , yavlyayushcheysya odnim iz charakternykh endocrinenykh narushenyi pri razvitii menopause i privodyashchey k atherogennym narusheniyam v sorotke koriv i, kak sledstvie etogo, k intensikatsii procesov perkisnogo kisleniya lipidov [37, 48]. Provedennymi k nastoyashchemu vremeni issledovaniyami pokazano, chto oksidlitelnyi stress obladeticheskoy nachimostyu v razvitii narushenyi i ugasania reproduktnoy funktsii gysenchini i bolee vyrajen u genshinin v postmenopause, chem v perimenopauzalnom period [17]. Aktivnost svobodno-radikalnogo okisleniya lipidov organism u ginschin pri fifitsite polovykh steroidov v znachitelnoy stepeni zavisit ot varianta ego razvitiya. Pri fiziologicheskom techenii klimaksa activity of free-radical oxidation of lipids is in predelakh age norm, blagodarya tomu chto processy POL i antioxidantnaya obespechennost organizma uravnovesheny mejdu soboy. Pri patologicheskom techenii klimakteriya nablyudaetsya znachitelnaya activation of processes of lipoperoxidatsii , yavlyayushchayasya rasultum, s odnoy storony, povysheniya istinnogo irovnya produktov POL, a s secondoy – snijeniya obshchey antioxidantnoy activity.

According to the theory of E. Reimund (1994), free radicals accumulate in the organism during waking hours and disappear during sleep. V svyazi s etim insomnia , yavlyayushchayasya odnim iz naibolee rasprostranennyx narusheniy, soprovozhdyushchix climacterium and genschin, privodit k nakopleniyu svobodnyx radikalov v organizme [44]. However, the results of experimental work, kasayushchiesya izucheniya dannyx aspektov, yavlyayutsya spornymi [18, 43]. Results of research M. Gulec meat al . (2012) showed that patients with insomnia have increased activity of glutathione peroxidase and increased levels of the final product POL [26]. Increased levels of TBK-active products are shown in patients with insomnia and postmenopause [27].

In the present time, in addition to the determination of individual indicators of the POL-AOZ process, integral indicators of oxidative stress are used, which are more sensitive to the balance of these processes compared to individual indicators [7, 29]. Tak, v issledovanii B. Liang meat al . (2013) showed a decrease in general antioxidant status and an increase in the oxidative stress level in patients with insomnia , which may be the result of a decrease in the activity of the antioxidant enzyme paraoxanazy [33].

Posledstviya insomnii mnogoobrazny. Oni mogut byt kak sotsialnymi (uvelichenie riska dorojnotransportnyx proisshestviy, snijenie proizvoditelnosti truda), tak i

meditsinskimi. Having insomnia increases the risk of development and further mental disorders, alcoholism and drug dependence [9, 11]. V nastoyashchee vremya, pomimo psikhicheskikh narusheniy, insomnia vzaimosvyazana s narusheniyami glyvodnogo obmena [32], ojireniem [34], serdechno-sosudistymi zabolevaniyami [35] i pr. Vse eto predstavlyaet interes k izucheniyu insomniy i poiska effektivnyx metodov lecheniya dannyx rasstroysv sna s tselyu povysheniya kachestva jizni jenshchin. Methody korrektsii doljny ustranyat faktori, vyzyvayushchie insomniyu , i normalizovat son, t. k. lechenie tolko odnogo iz imeyushchihsya sostoyaniy ne yavlyaetsya perspektivnym dlya normalizatsii kachestva jizni.

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