

CIRCADIAN AND SEASONAL RHYTHMS OF PAROXYSMAL ATRIAL FIBRILLATION EPISODES

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This study presents the retrospective 7 years follow-up analysis of paroxysmal atrial fibrillation (AF) episodes in 106 patients (average age — $61,3 \pm 10,7$). In 91 patients were identified organic heart diseases (CHD, arterial hypertension, no coronary heart diseases). In 15 patients organic heart disease was not observed. All the episodes of AF were documented in regarding with medical history, clinical, ECG data or the results of Holter monitoring and the time of AF episode was registered. All of patients were undergoing on medical observation and have generally accepted except standard therapy prophylactic medication with cordarone. Circadian and seasonal variability of paroxysmal AF was calculated by cosinor analysis. The obtained results have revealed the significant seasonal rhythm of paroxysmal AF episodes during in winter with a peak in December-January and with amplitude of 8 ± 5 episodes/month. The minimum of episodes of AF was observed during the summer especially in August. The circadian variation of AF episodes has shown 2 peaks: a big peak at 09.27 (7.36—11.28) and a small one at 21.12 (19.22—23.48) ($p < 0,05$). It is interesting to note, that there was no significant difference between circadian and seasonal rhythms of episodes of AF in patients with and without heart organic disease. These data demonstrate the circadian and seasonal variations of episodes of AF and could be as a basis for rational therapy and prophylaxis of paroxysmal AF.

ВЛИЯНИЕ ЭЛЕКТРОМАГНИТНОГО ПОЛЯ ПОГРАНИЧНОГО СЛОЯ АТМОСФЕРЫ НА ПОКАЗАТЕЛИ ЗДОРОВЬЯ ЧЕЛОВЕКА И ЕГО БИОРИТМЫ

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На физическом полигоне Владимирского государственного университета с 1999 г. осуществляется непрерывный мониторинг электромагнитных полей инфранизкочастотного диапазона, метеофакторов и радиационного фона. Жизнь

человека протекает в соответствии с физическим, эмоциональным и интеллектуальным циклами. Данные анкетирования студентов позволили рассчитать биологические ритмы каждого студента в соответствии с циклами жизнедеятельности и сделать вывод о функциональном состоянии организма. Проводится анализ воздействия геофизических и неземных факторов на дорожно-транспортные происшествия по Владимирской области совместно с медико-санитарной частью МВД России по Владимирской области. На отдельных участках временных рядов выявлена значимая корреляция между вертикальной составляющей напряженности электрического поля, магнитным полем Земли, числами Вольфа и количеством ДТП по Владимирской области. Выявлена значимая корреляция между количеством погибших и раненных в результате ДТП по Владимирской области и числом Вольфа в 2001—2004 гг. Работа проводится при поддержке ФЦП № 09-05-99015, 11-05-97518, Программы Минобразования № 2.1.1/11281, гранта РФФИ № 11-05-97518.

INFLUENCE OF ELECTROMAGNETIC BOUNDARY LEVEL FIELD ON INDICATORS OF MAN'S HEALTH AND BIOLOGICAL RHYTHMS

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The system of multichannel synchronic monitoring was created on the physical experimental station of Vladimir State University. This station is created for monitoring, storing and processing of data of geomagnetic and electric boundary level fields. Human life proceeds according to physical, emotional, and intellectual cycles. In the article biological rhythms of the students in accordance with the cycles of life are calculated and the functional state of the organism is concluded. The analysis of influence of geophysical and unearthly factors on road accidents in Vladimir region together with the Medicosanitary department of the Ministry of internal affairs of the Russian Federation in Vladimir region is carried out. On some separate sites of time series there has been revealed significant correlation between vertical component of electrical field intensity, the Earth magnetic field, Volf's numbers and the quantity of road accidents in Vladimir region. Significant correlation between quantity of lost and wounded as a result of road accidents in Vladimir area and Volf's number in 2001—2004 has been revealed. The work is supported by grants FCP № 09-05-99015, 11-05-97518, Program of the Ministry of Education № 2.1.1/11281 and grant RFFI 11-05-97518.