O.N., Kosyuga Yu.I. Effect of acute hypobaric hypoxia on spermatogenesis and lactate concentration in testicular tissue of male albino rats. Bulletin of Experimental Biology and Medicine. 2006; (1): 24-26. (In Russ.)]

12. Капустин Р.В., Оноприйчук А.Р., Аржанова О.Н. Патофизиология плаценты и плода при сахарном диабете. Журнал акушерства и женских болезней. 2018; 67 (6): 79-92. doi: 10.17816/JOWD67679-92 [Kapustin R.V., Onopriychuk A.R., Arzhanova O.N. Pathophysiology of the placenta and fetus in diabetes mellitus. Zhurnal akusherstva i zhenskikh bolezney. 2018; 67 (6): 79-92. (In Russ.) doi: 10.17816/JOWD67679-92]

ПРИНЦИПЫ ПРИМЕНЕНИЯ ПРОФИЛЬНЫХ АЛГОРИТМОВ ЛЕЧЕНИЯ В ЕЖЕДНЕВНОЙ ПРАКТИКЕ ВРАЧА СТОМАТОЛОГА ЭНДОДОНТИСТА.

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THE PRINCIPLES OF USING SPECIFIC TREATMENT PROTOCOLS IN THE DAILY PRACTICE OF AN ENDODONTIST.

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Abstract

The main goals in dental practice are the high quality of the work, reduction of the risk of medical errors and effective diagnosis and treatment of oral tissues diseases; the whole multilevel system of medical care is willing to increase these indicators. Therefore, it is important to find ways to improve and maintain the dental care for the population [1].

One of these ways is the implementation of dental care standards. These standards are developed by the Dental Association of Russia and updated in 2018. There are specific algorithms and clinical recommendations for the treatment of patients with pulp and periapical tissue diseases.

Key words: dentistry; specific algorithms; clinical recommendations; pulp diseases; diseases of periapical tissues; quality of medical care.

Aim of research: to investigate specific algorithms (clinical recommendations) for the treatment of pulp and periapical tissue diseases approved by Dental Association of Russia, in Moscow dental clinics.

Materials and methods: This research was carried out in private clinics and state dental polyclinics. 176 specialists in therapeutic dentistry who work in Moscow and Moscow region took part in it.

Clinics, which are involved in the research, suggest medical care under various programs: compulsory medical insurance, voluntary medical insurance and commercial admission.

Anonymous survey was conducted on the basis of the electronic system Google Forms. The questionnaire consisted of 26 questions about stages of endodontic treatment and treatment protocol.

Results: According to the results of the survey, it was revealed that most of the doctors are familiarized with the clinical recommendations for the treatment of pulp and periapical tissue diseases published by the Dental Association of Russia, namely 68.4% of the respondents. The data of the above answer to the question are characteristically compared with the answers to the question about carrying out an X-ray examination before starting endodontic dental treatment, since according to the treatment protocols approved by the Dental Association of Russia, this study should be mandatory.

Therefore, 56.2% of respondents always carry out a diagnostic X-ray procedures at the beginning of endodontic treatment, 12.3% before starting work, and 31.5% - if only they anticipate difficulties during treatment, and this approach does not feel right.The reason why dentists neglect the X-ray diagnostic method is that 41.9% of respondents think it is not essential, 19.4% do not have enough time for an appointment, 22.6% rely on their experience, 6.5% - because of patients' refusal, and only 9.7% of respondents do not conduct this diagnostic method if the X-ray equipment is out of service.

82.95% of doctors confirm that the management depends on patients' income, which impact on treatment protocols. Also, according to the results of

the survey, we found out that in most cases after the endodontic dental treatment doctors do not follow-up patients and 25.6% of all respondents do not conduct dynamic examination after the end of treatment.

Conclusions: via the survey a large number of problems were identified in endodontic treatment. In our opinion, the most significant of them are:

- lack of knowledge among dentists about the clinical treatment guidelines
- dentists do not use regular treatment protocols for pulp and periapical tissue diseases
- after the endodontic dental treatment doctors do not recall patients

Finally, all above-mentioned facts can increase the percentage of complications after endodontic treatment, as well as elevate the legal vulnerability of doctors. Only strict adherence to specific treatment protocols will help the doctor to avoid a conflict situation.

References

1. Kuzmina E.M., Yanushevich O.O. Preventive Dentistry: A Textbook. M.: Practical medicine, 2016.

РАЗРАБОТКА МАТЕМАТИЧЕСКОЙ МОДЕЛИ «ИНСУЛИН-ГЛЮКОЗА»

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DEVELOPMENT OF MATHEMATICAL MODEL "INSULIN-GLUCOSE"

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Аннотация

Описаны алгоритмы прогнозирования глюкозы в крови, основанные на применении математических моделей, которые могут быть применены в системах непрерывного мониторинга уровня сахара в крови.

Abstract

Algorithms for predicting blood glucose based on the use of mathematical models that can be used in continuous monitoring systems for blood sugar are described.

Ключевые слова: инсулин; глюкоза; модель.

Keywords: insulin; glucose; model.

Объединение инсулиновой помпы с системой постоянного контроля уровня глюкозы в крови позволит управлять уровнем глюкозы крови в реальном времени, т.е. создать искусственную поджелудочную железу. Но в настоящий момент не существует отлаженного алгоритма, который мог бы вычислять действительный и рекомендуемый уровни инсулина лишь по уровню глюкозы. Но большой объем накопленных знаний и экспериментов в этой области, а также новые возможности, открывающиеся перед медициной благодаря совершенствованию методик анализа, а также сбора и обработки данных, неизбежно приведет к тому, что такие модели будут получены. Повышение точности описания вовлеченных механизмов позволит делать точные прогнозы для каждого пациента. Целью данной работы является разработка адекватной динамической модели метаболизма глюкозы и инсулина в теле человека.

В качестве первого подхода к моделированию наша научная группа выбрала модель Беннета и Гоурли с уточнениями, предложенными Li, Kuang and Mason [1]: модель регуляции уровня глюкозы и инсулина здорового человека на основе системы дифференциальных уравнений с запаздывающим аргументом.

Данная модель относительно проста (по сравнению с уравнениями частных производных и интегральными уравнениями), что существенно