INTERNATIONAL HUMANITARIAN UNIVERSITY
Faculty of Dentistry and Pharmacy
Faculty of Medicine and Public Health

Modern Problems of Pharmacology, Cosmetology and Aromology

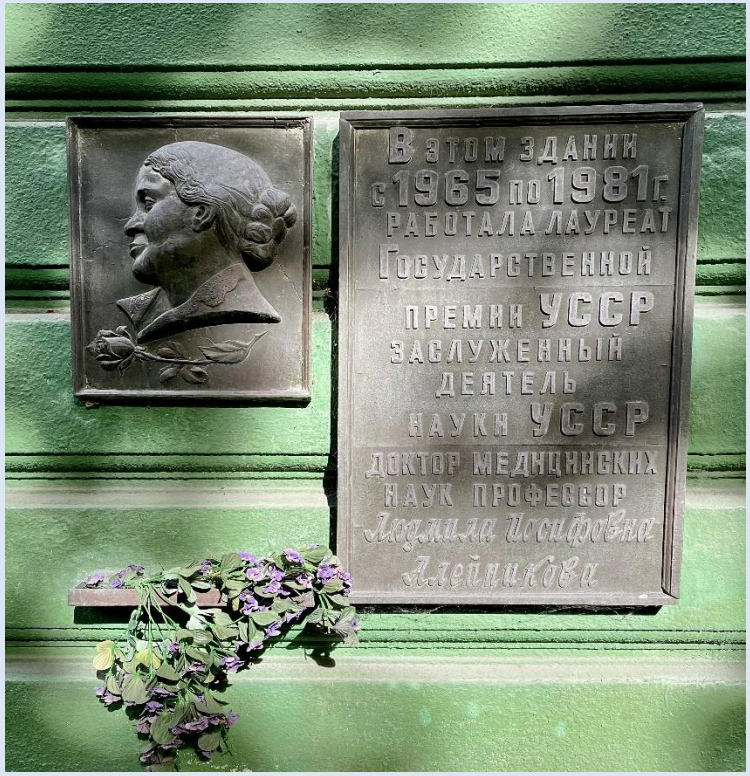
PROCEEDINGS

XIth Scientific and practical conference dedicated to 100th birth anniversary

Lyudmila Yosypivna Aleynikova

(1923 — 1981)

September 22, 2023.
Odessa



Основні праці професора Л. Й. Алейнікової:

- **Застосування новокаїнаміду при суправентрикулярних розладах ритму, що ускладнюють інфаркт міокарда. (1969);**
- **Значення прогнозування результату інфаркту міокарда для успішної реабілітації хворих. (1975);**
- **Передінфарктні стани. (1976);**
- **Кому загрожує інфаркт міокарда. (1977, 1981);**
- **Про диспансерне спостереження здорових і хворих на ішемічну хворобу серця моряків. (1978).**

МІЖНАРОДНИЙ ГУМАНІТАРНИЙ УНІВЕРСИТЕТ

Факультет стоматології та фармації

Факультет медицини та громадського здоров'я

Сучасні проблеми фармакології, косметології та аромології

XI Науково-практична конференція присвячена 100-річчю з дня народження Людмили Йосипівни Алейникової (1923 — 1981)

22 вересня 2023 р.

INTERNATIONAL HUMANITARIAN UNIVERSITY

Faculty of Dentistry and Pharmacy

Faculty of Medicine and Public Health

PROCEEDINGS

11th Scientific and Practical Conference

"Modern problems of pharmacology, cosmetology and aromology"

МІЖНАРОДНИЙ ГУМАНІТАРНИЙ УНІВЕРСИТЕТ
Факультет стоматології і фармації
Факультет медицини та громадського здоров'я

МАТЕРІАЛИ
XI Науково-практичної конференції

«Сучасні проблеми фармакології, косметології та аромології»

Присвячується
100 річчу з дня народження
Людмили Йосипівни Алейникової
(1923 — 1981),
видатного українського лікаря, кардіолога,
професора, заслуженого діяча науки,
Дню Фармацевта України (16.09.2023)
та
Всесвітньому Дню фармацевта (25.09.2023)

м. Одеса – 2023

УДК 615(063)
ББК 52.8я43
С 91

Сучасні проблеми фармакології, косметології та аромології:
Матеріали XI науково-практичної конференції, присвяченій 100-річчю з дня народження професора Людмили Йосипівни Алейникової (1923 — 1981), видатного українського лікаря, кардіолога, заслуженого діяча науки, Дню Фармацевта України (16.09.2023) та Всесвітньому Дню фармацевта (25.09.2023). м. Одеса, 22 вересня 2023 р. – Одеса: Міжнародний гуманітарний університет, 2023. – 105 с.
ISBN 978-966-413-659-1

У збірнику представлені доповіді і повідомленння, подані на XI науково-практичну конференцію «Сучасні проблеми фармакології, косметології та аромології», присвяченій 100-річчю з дня народження професора Людмили Йосипівни Алейникової (1923 — 1981), видатного українського лікаря, кардіолога, заслуженого діяча науки, Дню Фармацевта України (16.09.2023) та Всесвітньому Дню фармацевта (25.09.2023), яка відбулася в Міжнародному гуманітарному університеті 22 вересня 2023 р.
Редакція, макет: В. А. Бачеріков.
Остання сторінка обкладинки:
Меморіальна дошка. Автор світлини: Г. І. Жукатінська ©

ISBN 978-966-413-659-1

Адреса: Міжнародний Гуманітарний Університет, Факультет стоматології і фармації, Фонтанська дорога, 25А.

Як цитувати:
Матеріали науково-практичної конференції «Сучасні проблеми фармакології, косметології та аромології». Факультет стоматології і фармації, МГУ, Одеса, 22.09.2023 р. – С.

How to cite:
Proceedings of the Conference "Modern Problems of Pharmacology, Cosmetology and Aromology", September 22, 2023 at the Faculty of Dentistry and Pharmacy, IHU, Odessa, Ukraine. – P.

2. Давіденко К. Нові антибіотики: Механізми дії та резистентності. Укр. Мед. часопис 2019-08-01. https://www.umj.com.ua/article/160341/novi-antibiotikimehanizmi-diyi-ta-rezistentnosti
3. Вікторов О. П., Коваленко В. І., Логвина І. О., Яйченя В. П. Побічна дія антибіотиків і аміноглікозидів: гентаміцин. Сучасні проблеми токсикології. 2002. № 3. С. 74-86.
4. Побічна дія антибіотиків / Р. Ю. Грицко, А. М. Задорожний, Н. М. Прокуда та ін. Інфекційні хвороби. 2015, № 3 (81), С. 86- 91. 10.
5. Пекліна Г. П. Обрані питання загальної і клінічної фармакології з медичною рецептурою / Г. П. Пеклина, Н. Г. Антипов, Л. П. Зубкова, В. А. Бондарів, В. В. Бочарова, А. В. Висловух/ Одеса: видавничий дім "Гельветика", 2015, - 880с.
6. https://www.vz.kiev.ua/vooz-zminyla-klasyfikatsiyu-antybiotykiv-i-onovyla-perelik-likarskyh-zasobiv/

UDC 616-084-053.2:669.018.674:615.322

***N. I. Hnida*[1], *I. M. Hnidoi.*[2]**

DIETARY FIBER AS AN ALTERNATIVE TO PHARMACOLOGICAL CHELATORS FOR CHILDREN EXPOSED TO LOW DOSES OF LEAD

Abstract*. The 80 random children aged 4 to 15 years were examined. About a quarter of the children had blood lead concentration (BLC) more than 5μg/dL. They also had a higher content of eosinophil cells, an increase of alanine aminotransferase activity in the blood compared to children with lower BLCs. Dietary fiber from cereals of 10 g per day was used for 30 days, as an addition to main dishes and salads during lunch for these children. As a result, the BLC, the number of eosinophils in blood and the activity of alanine aminotransferase significantly decreased.*
Keywords*: environment, public health, lead exposure, children, dietary fiber.*

With the progress of civilization, the active processes of urbanization and industrialization in the world for a long time increased the scale of use of lead, and accordingly its accumulation in the environment and the negative impact on public health, especially children. [1] The most vulnerable are children in low-income countries, the lack of government programs to limit lead use and screening measures for timely detection of individuals, subjected to environmentally driven lead pressure. In Ukraine, all these negative factors are joined by such as active hostilities in a large part of the territories for more than a year and a half. Therefore, the problem of assessing the accumulation of lead in the organism of Ukrainian children and the development of methods for the prevention and treatment of chronic lead intoxication is urgent. In addition, the conventional techniques employed for the elimination of heavy metals, such as chelators, are deemed inadequate when the concentration is

[1] *Doctor at the Department of Internship, Odesa National Medical University*
[2] *Ph.D., Associate Professor at the Department of Internal Diseases, International Humanitarian University (Odesa).*

relatively low. [2] Pharmacological chelators themselves are quite toxic, and an alternative to pharmacological chelators is needed.

The aim of the work was to evaluate the effectiveness of dietary fiber (DF) as a natural alternative to pharmacological chelators in reducing BLC in children.

The 80 random children aged 4 to 15 years, who were in a pediatric treatment facility, were examined. The inclusion of children in the study was carried out subject to the informed consent of the parents of the children after providing detailed information about the procedure and purpose of the work.

The determination of lead was carried out in heparinized venous blood by atomic absorption spectrometry with electrothermal atomization. General clinical tests of blood and urine were carried out according to generally accepted methods. A biochemical blood test included separate indicators of the state of the liver to assess the possible negative effects of lead on these parameters, as well as to control the safety of therapy, as shown in the literature. The content of beta-lipoproteins, bilirubin, total protein, and the activity of alanine aminotransferase (ALT), an indicator of the thymol test was determined. Statistical processing of the obtained data was carried out by methods of variational statistics using the Student-Fischer T-criterion.

To establish the dependence of the studied parameters on the BLC, as well as considering the recommendations of the WHO on the feasibility of clinical intervention, [3] children were divided into 2 groups: 1) a group with a BLC up to 4.9 μg/dL, n = 62; 2) a group with a BLC 5.0-9.9 μg/dL, n = 18. Evaluation of calculations χ^2 showed that by age, by the presence of certain diseases, the groups were homogeneous. The control in assessing the ecopathogenic effects of lead was the first group of children. In assessing the efficacy and safety of the intervention, indicators at the 1st day and at the 31st day of observation were compared.

The results of the study are presented in the Table 1. There were no significant differences both between groups of children with different levels of lead and between different periods of observation in the biochemical indicators of the functional state of the liver, so they were not included in the table.

Table 1. Indicators of morphological and biochemical examination of blood in children of different groups, M±m

Indicators	BLC ≤ 4.9 μg/dL		BLC 5.0–9.9 μg/dL	
	1st day	31st day	1st day	31st day
Lead, μg/dL	3.21±0.23	3.14±0.21	8.61±0.22*	5.16±0.27**
Hemoglobin, g/l	126.54±1.46	127.84±1.53	126.39±2.70	130.72±2.24
Erythrocytes, T/l	4.00±0.05	3.99±0.05	4.04±0.09	4.06±0.09
Eosinophils, %	1.65±0.24	1.77±0.23	2.83±0.54*	1.17±0.28**
ALT, μmol/l/s	0.42±0.01	0.41±0.01	0.47±0.02*	0.38±0.01**

Note. * - The difference is reliable ($p < 0.05$) with the indicator of the first group, ** - the difference is reliable ($p < 0.05$) between the indicators at the 1st day and at the 31st day of the observation in each group.

Analysis of BLC in children showed that about a quarter of them have a concentration above 5 μg/dL at the start of observation. A significantly greater 1.7 times relative number of eosinophils was also found in these children. This is consistent with data from other researchers. And it indicates a possible allergy of the body with an increase in the BLC, which can contribute to the development of allergic diseases such as asthma in children. [4] Compared with the first group, ALT was increased in the blood of children of the second group. This enzyme is organ-specific for the liver, so an increase in its activity in the blood indicates a violation of the integrity of the membranes of hepatocytes.

As a nutritional supplement for children of the second group, dietary fiber from cereals of 10 g per day was used for 30 days, as an addition to main dishes and salads during lunch. Because of the use of dietary fiber in children, their BLC has significantly decreased by 1.7 times (see Table 1). This confirms the data on the sorption properties of dietary fiber. [5] At the same time, those studied indicators that at the beginning of the observation had differences with control were also subjected to correction. The relative number of eosinophils significantly decreased by 2,4 times. In addition, the activity of ALT normalized in the blood of children who received dietary fiber in our study. Presumably, this happened because of strengthening the membranes of hepatocytes by reducing excess lipoperoxidation in them and improving antioxidant defense. This is consistent with the conclusion of a systematic review about a positive impact of plant extracts on redox metabolism upon lead exposure. [6]

Children tolerated nutritional intervention well. Its safety was also indicated by the absence of changes in indicators of the functional state of the liver.

Conclusions: Dietary fibers showed sorbing properties, contributed to the removal of lead from the body. This allows us to recommend dietary fibers as a natural alternative to pharmacological chelators in reducing BLC in children. However, additional investigation is needed.

References

1. Halmo L, Nappe T.M. Lead Toxicity. – In StatPearls, StatPearls Publishing, 2023. https://www.ncbi.nlm.nih.gov/books/NBK541097/
2. Abd Elnabi M. K., Elkaliny N. E., Elyazied M. M., Azab S. H., Elkhalifa S. A., Elmasry S., Mouhamed M. S., Shalamesh E. M., Alhorieny N. A., Abd Elaty A. E., Elgendy I. M., Etman A. E., Saad K. E., Tsigkou K., Ali S. S., Kornaros M., Mahmoud Y. A. Toxicity of Heavy Metals and Recent Advances in Their Removal: A Review // Toxics. – 2023, Vol. 11(7), 580. https://doi.org/10.3390/toxics11070580
3. WHO guideline for the clinical management of exposure to lead. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO. https://www.who.int/publications/i/item/9789240037045
4. Zheng K., Zeng Z., Tian Q., Huang J., Zhong Q., Huo X. Epidemiological evidence for the effect of environmental heavy metal exposure on the immune system in children // The Science of the total environment. – 2023. – Vol. 868, 161691. https://doi.org/10.1016/j.scitotenv.2023.161691
5. Karim A., Raji Z., Karam A., Khalloufi S. Valorization of Fibrous Plant-Based Food Waste as Biosorbents for Remediation of Heavy Metals from Wastewater – A Review //

Molecules (Basel, Switzerland). – 2023. – Vol. 28(10), 4205. https://doi.org/10.3390/molecules28104205
6. Destro A. L. F., da Silva Mattosinhos P., Novaes R. D., Sarandy M. M., Gonçalves R. V., Freitas M. B. Impact of plant extracts on hepatic redox metabolism upon lead exposure: a systematic review of preclinical in vivo evidence // Environmental science and pollution research international. – 2023. – Vol. 30(40). – P. 91563–91590. https://doi.org/10.1007/s11356-023-28620-8

Гніда Н. І., Гнідой І. М. Харчові волокна як альтернатива фармакологічним хелаторам для дітей, що зазнають впливу низьких доз свинцю.

Анотація*. Обстежено 80 дітей випадкової вибірки віком від 4 до 15 років. Близько чверті обстежених дітей мали концентрацію свинцю в крові (BLC) понад 5 мкг/дл. У них був виявлений більш високий, порівняно з дітьми з нижчими BLC, вміст еозинофілів крові, збільшення активності аланінамінотрансферази. Цим дітям застосовувались харчові волокна із злаків по 10 г на добу протягом 30 днів, як добавка до других страв і салатів під час обіду. У результаті достовірно знизилась BLC, зменшилась кількість еозинофілів крові й активність аланінамінотрансферази.*

Ключові слова*: навколишнє середовище, громадське здоров'я, вплив свинцю, діти, харчові волокна.*

UDC: 615.2: 615.361.36

K. O. Kalko[1], I. Yu. Borysyuk[2], A. V. Kovpak.[3]

A YEAR OF LIFE WITH AN ELECTRONIC PRESCRIPTION FOR VACATION OF ANTIBIOTICS: STUDY OF OPINIONS OF PHARMACY EMPLOYEES

Abstract. *The aim of this work was to distinguish the positive and negative aspects of the sale of antibiotics based on a respective survey of pharmacy workers (as of 30.08.2023, 50 respondents from different regions of Ukraine), taking into account that during the year in Ukraine (starting from 01.08.2022) was introduced electronic prescription (E-prescription) for dispensing antibiotics. The positive side of the electronic dispensing of antibiotics is that the functionality of the E-prescription allows you to make a partial dispensing of drugs and divide the purchase into several times. The disadvantages of the electronic dispensing of antibiotics include the fact that it is impossible to implement a generic replacement in a pharmacy, as well as possible insufficient awareness of doctors about the number of tablets in a package, errors in appointments and technical difficulties when working with the Scarb program. The positive aspects of the dispensing of antibiotics by electronic prescription have been established based on the analysis of the opinion of pharmacy workers, both for the patient and for the pharmaceutical worker. However, there is a need for further*

[1] Candidate of pharmaceutical sciences, assistant professor of the department of clinical pharmacology of the National Pharmaceutical University, Kharkiv.
[2] Doctor of pharmaceutical sciences, professor, head of the department of general and clinical pharmacology of the International Humanitarian University, Odesa.
[3] Candidate of Pharmaceutical Sciences, associate professor of the department of pharmacology and drug technology of I. I. Mechnikov Odesa National University, Odesa.

CONTENTS

Modern Problems of Pharmacology, Cosmetology and Aromology PROCEEDINGS

Conference Paper · October 2023

CITATIONS
0

READS
56

32 authors, including:

Vladimir Malinovskii
International Humanitarian University
18 PUBLICATIONS **333** CITATIONS
SEE PROFILE

Valeriy Bacherikov
International Humanitarian University
57 PUBLICATIONS **291** CITATIONS
SEE PROFILE