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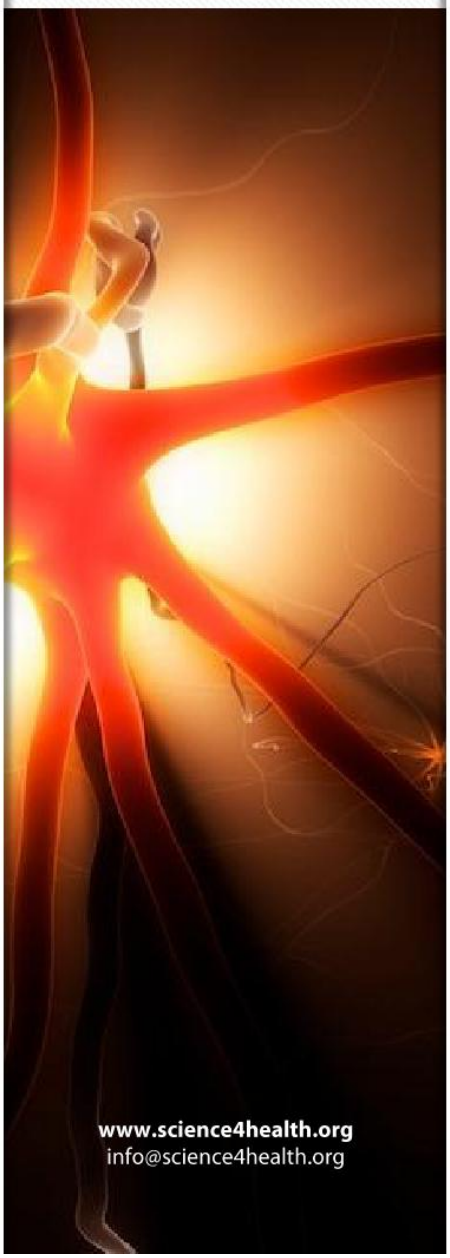

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# MATERIALS OF THE CONFERENCE

# МАТЕРИАЛЫ КОНФЕРЕНЦИИ

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УДК 616
ББК 53/57
К49

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В сборнике представлены результаты научных исследований студентов медицинского факультета РУДН, медицинских вузов России и Европы, посвященных различным аспектам современной медицины.

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## ПРИВЕТСТВИЯ
## GREETINGS



## ТЕЗИСЫ ДОКЛАДЫ
## ABSTRACTS

## ДОБРО ПОЖАЛОВАТЬ!
## WELCOME!

Рад приветствовать всех участников, гостей и организаторов Международной студенческой научной конференции «Клинические и теоретические аспекты современной медицины».
К началу 21 века человечество накопило огромный научный багаж, как практических, так и теоретических знаний. Но, несмотря на это, в новом тысячелетии каждый день перед людьми открываются все новые и новые научные просторы, новые сферы приложения нескончаемой человеческой изобретательности. Поэтому, только осознавая чрезвычайную важность научного прогресса для всех сфер человеческой деятельности, Вы сможете в будущем добиться поистине высоких результатов, стать действительно востребованными специалистами.

Путь в науку начинается с Научного Студенческого Общества. Одни научные идеи превращаются в серьезные исследования, другие – остаются только проектами. Именно так, в студенческие годы у человека закладываются научные мечты, формируются научные взгляды и появляются предпочтения к определенным дисциплинам. Это составляет основу для успешного определения направления будущей работы и научно исследовательской деятельности.

Шагайте в ногу со временем и не упускайте тех возможностей, которые вам предоставляются. Будьте страстны в вашей работе и в ваших исканиях. Хочу пожелать всем счастья, здоровья и успехов на жизненном пути.

On behalf of the Medical Faculty of Peoples Friendship University and staff, welcome to the proceedings of the International Students Scientific Conference "Clinical and Theoretical Features of Modern Medicine". It has been my distinct honor to chair the conference and to have the privilege of working with distinguished colleagues on the committee to construct this event. We greatly appreciate the continued support in publishing the annual conference proceedings, which they have done for the past three years. We thank the organizing committee for making this opportunity possible.

These proceedings would not be possible without the tireless effort of many people. I wish to first acknowledge the excellent submissions by authors. Indeed, the authors are the reason for the existence of this conference, and this supplement is a snapshot of important research in our field.

Career in science begins with the Student Scientific Society. Some scientific ideas are turned into profound research while others turn out to be only projects which consecutively helps other researchers in the future.

We would like to thank our distinguished reviewers. Their rich, insightful, diverse, and expert opinions are absolutely essential to the success of the papers and the abstracts presented at the conference. Reviewers provide the ratings and comments that the organizing committee uses to select the papers and abstracts presented at the conference each year.
Additionally, I would like to thank the extremely talented group of individuals brings a wealth of expertise, judgment, experience, creativity, and unusual diligence that is essential to shaping the proceedings.

Keep pace with time and do not miss those opportunities that you are provided with. Be passionate in your work and in your quest to gain success.
I wish everyone happiness, good health and success in life.

**Декан Медицинского факультета РУДН**
**Профессор Фролов Виктор Алексеевич**

**Dean of The Faculty of Medicine of PFUR**
**Professor Frolov Victor Alekseevich**

## DEAR PARTICIPANTS, ORGANIZERS AND MEMBERS OF THE COMMITTEES

Five years have passed since the meeting of the first two enthusiastic students and the beginning of the fruitful cooperation between the Peoples' Friendship University of Russia and Semmelweis University. Students and tutors of both universities are pleased to have joint summer practices and scientific conferences where they can meet, broaden their knowledge and also discover each other's way of everyday life. Scientia unescamus – we unite with knowledge, as your motto says.

I was pleased to welcome the increasing number of students from the Peoples' Friendship University of Russia at the Annual Conference of the Students' Scientific Association of the Semmelweis University year by year. In February 2012 we had the opportunity to listen ten outstanding presentations.

I hope our students will be as successful and prepared as we experienced from your side previously. Besides, I would like to thank the organizers for giving opportunity to take part in the present meeting.

I wish you good luck with the Conference and I would like to congratulate on the 50th Anniversary of Peoples' Friendship University of Russia. I hope our joint cooperation will strengthen and continue successfully in the future. I hope that every participant will have an outstanding experience during the conference and the meticulous scientific work will finally lead to the deserved success!

**Yours sincerely,**

**Béla Merkely, M.D., Ph.D., D.Sc.**
**Head of the Students' Scientific Association of the Semmelweis University Budapest**

## ДОРОГИЕ ДРУЗЬЯ!
## DEAR FRIENDS!

Приветствуем вас на Международной Научной Конференции «Клинические и теоретические аспекты современной медицины» в Российском Университете Дружбы народов!
Наша конференция с каждым годом подтверждает свое международное значение, вносит свой вклад в научные события международного уровня. Все это стало возможным благодаря растущему числу студентов, желающих принять участие в конференции, расширению географии ее участников.
Нашей целью является превращение конференции в площадку для ежегодных научных состязаний как студентов, так и молодых ученых-медиков из разных стран. Надеемся, что вы получите удовольствие от участия в конкурсе научных работ, олимпиаде мануальных навыков, лекций, круглых столов и дискуссий.

**С наилучшими пожеланиями,**
**Оргкомитет конференции.**

Welcome to the International Students Scientific Conference "Clinical and Theoretical Features of Modern Medicine" in Moscow!

This international platform for scientific exchange is now taking place for the third time and has been growing constantly. Our aim is make this annual event become the biggest platform of scientific competitions for students and junior scientist from all over the world.
We cordially invite you to get to know each other, learn from each other, discuss, exchange ideas and look beyond - this is what our conference represents. We hope that you will enjoy the keynote lectures, workshops and not to forget- Moscow, during your stay. Your participation, diligence and activeness in this conference has made the Annual International Conference "Clinical and Theoretical Features of Modern Medicine" what it is today. We hope you will seize this opportunity and benefit from the diversity, internationality, and enthusiasm. We wish you a fruitful time in Moscow and are happy to welcome you to the International Scientific Conference!

**Yours sincerely,**
**The Organizing Committee.**

# ТЕЗИСЫ ДОКЛАДОВ
# ABSTRACTS

(state 4) mitochondria, elevation of temperature from 33oC to 41oC increased H2O2 production by 31,5%. With other substrates, succinate (complex II) or alfa-glycero-phosphate similar results were obtained. In the presence of complex I inhibitor rotenone an even higher increase of H2O2 production (58,8%) was observed as a consequence of elevation of temperature from 33oC to 41oC. On the other hand the rate of H2O2 elimination was also increased parallel to rising temperature, with glutamate-malate substrate it was by 24,2% faster at higher temperature. The oxygen consumption also run parallel with the increasing temperature.

Conclusion: Parallel to rising temperature the rate of oxygen consumption, ROS production and H2O2 elimination was increased. The enhancement of rate of H2O2 production was higher than that of elimination, thus the formation-elimination balance with increasing temperature shifted to oxidative stress. Consequently, cooling the central nervous system can contribute to neuroprotection by the decrease of ROS production.

ACKNOWLEDGEMENT

OTKA (NK 81983), TÁMOP (4.2.2./B-09/1),MTA (MTA TKI 2006 TKI88) to V. Adam-Vizi

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**СОДЕРЖАНИЕ ПРОДУКТОВ ПЕРЕКИСНОГО ОКИСЛЕНИЯ ЛИПИДОВ И АКТИВНОСТЬ АНТИОКСИДАНТНЫХ ФЕРМЕНТОВ В БРОНХИАЛЬНОЙ ТКАНИ ВО ВРЕМЯ РАЗВИТИЯ ЭКСПЕРИМЕНТАЛЬНОГО АЛЛЕРГИЧЕСКОГО АЛЬВЕОЛИТА И КОРРЕКЦИЯ ЕГО НАРУШЕНИЙ ТИАТРИАЗОЛИНОМ.**

Байда М.Л., Семенцив Н.Г., Садляк О.В.

Львовский Национальный Медецинский Университет имени Данила Галицкого, Украина, Львов.

Медецинский факультет,Кафедра патологической физиологии

Научный(ые) Руководитель(ли): Проф.,д.м.н. Регеда М.С.

**THE CONTENT OF LIPID PEROXYDATION PRODUCTS AND ACTIVITY OF ANTIOXIDANT SYSTEM ENZYMES IN BRONCHIAL TISSUE DURING EXPERIMENTAL ALLERGIC ALVEOLITIS DEVELOPMENT AND CORRECTION ITS DISTURBANCES WITH THIATRIAZOLINI**

Baida M.L., Sementsiv N.G., Sadliak O.V.

Danylo Halytsky Lviv National Medical University, Ukrain, lviv.

The Faculty of Medicine, Department of pathologycal physiology

Scientific Adviser(s): Ph.D. Regeda M.S.

*This work demonstrates lipid peroxidation activation which is characterized by increase of malonic dialdehydiin the guinea pigs liver tissue under the conditions of experimental allergic alveolitis. It is proved that antioxydativ system indices – superoxide dismutaseand is falling of antioxidant enzymes level. That may prove the antioxidant system exhaustion.*

Actuality. Hypersensitivity pneumonitis known as allergic alveolitis, is a granulomatous, inflammatory disease of the lungs caused by the inhalation of antigenic organic particles. The pathogenesis of allergic alveolitis involves both type III and type IV hypersensitivity reactions that are mediated by immune complexes.

The lipid peroxidation products can cause cells damage and lead to disturbances of cells functional state. Pathogenesis of the extrinsic allergic alveolitis, especially the role of processes of lipid peroxidation and the activity of antioxidant system enzymes in the bronchial tissue in experimental allergic alveolitis were researched insufficiently. Disturbance between prooxidant and antioxidant systems with prevalence of first one leads to oxidative stress development. This determines actuality of our research work.

The goal of the research work was:

- to study the level of lipid peroxidation product- malonic dialdehyde and activity of antioxidant system by means of superoxide dismutase in the bronchial tissue of Guinea pigs during experimental allergic alveolitis development;
- to set the corrective effect of thiatriazoline on disturbed indicators.

Materials and methods. Guinea pigs, males, weigh 350-400g, were employed in this experiment. Animals were divided into four groups (12 animals in each group).

The first group - Guinea pigs with allergic alveolitis (AA) on 44 day of experiment before treatment of thiatriazolini.

The second group - Guinea pigs with allergic alveolitis (AA) on 54 day of experiment before treatment of thiatriazolini.

The third group - animals with allergic alveolitis(AA) on 54 day of experiment after treatment of thiatriazoline, which we injected intramusculary at dose 100mg/kg from 44 to 54 day.

The fourth group - animals control group animals (health animals) .

Experimental allergic alveolitis was performed by method of O.O. Orexov, Y.A. Kyrylov. Level of malonic dialdehyde determined by method of E.N. Korobejnicov, superoxide dismutase - by Fried method. The research work conducted in compliance with the principles of bioethic in accordance with the provisions of European Convention for the protection of vertebrate animals used for experimental and scientific purposes (Strasbourg, 1986), Council Directive 86/609/EES (1986), the Law of Ukraine № 3447-1V "On protection of animals from cruelty," general ethical principles animal experiments approved by the first National Congress of Ukraine on Bioethics (2001).

Results. It was estimated subsequent increase the level of malonic dialdehyde on 44 by 80,16 %, and 87,9% on the 54 days of allergic alveolitis development comparison with control group. Us known lipid peroxidation can be course the oxidative stress, assayed for malonic dialdehyde. The level of superoxide dismutase was dicreased (by 18,53% and 25,8 % relatively). It means that that ability of antioxidant system to neutralise the metabolits of lipid peroxidation is insufficient. On 54 day after treatment of thiatriazoline level of malonic dialdehyde was decreased on 35,95%, content of superoxide dismutase was increases on 28,96 % in comparison with health animals.

Conclusions. In dynamic of experimental allergic alveolitis level of lipid peroxidation increased on the 44 and 54 days in comparison with control group. The level of superoxide dismutase was decreased. Usage of antioxidant of thiatriazolin had a positive effect on these disturbanses. The level of malonic dialdehyde was decreased on 35,95%, content of superoxide dismutase was increases on 28,96 % in comparison with untreated animals.

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**СНИЖЕНИЕ АПОПТИЧЕСКОЙ ГИБЕЛИ НЕЙРОНОВ СА1 - ЗОНЫ ГИППОКАМПА КРЫС В УСЛОВИЯХ ПРЕНАТАЛЬНОЙ ХРОНИЧЕСКОЙ АЛКОГОЛИЗАЦИИ ЦЕРЕБРОКУРИНОМ И ТИОЦЕТАМОМ.**

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Медицинский факультет, кафедра фармакологии

Научный(ые) Руководитель(ли): Д.б.н., проф., зав.кафедрой фармакологии Беленичев И.Ф.

**REDUCTION OF APOPTOTIC DEATH OF NEURONS CA-1 ZONE OF HIPPOCAMPUS OF RATS IN THE CONDITION OF PRENATAL CHRONIC ALCOHOLISATION BY CEREBROCURIN AND TIOCETAM.**

Belenichev I.F., Sokolik E.P., Egorov A.N.

Zaporozhye state medical university, Ukraine,Zaporizhzhya

The Faculty of Medicine, Department of pharmacology

Scientific Adviser(s): professor, PhD, head of the department of pharmacology Belenichev I.F.

*Our research found that prenatal alcoholism leads to increase of NO induction and nitrosine stress in the brain of newborn rats, evidenced by the increasing of nitrotyrosine in citosole and mitochondria. By adjusting the ratio of mitochondrial/cytosole concentrations of NO and reactive oxygen forms, cerebrocurin and tiocetam limited the effect of these compounds on the activation or deprivation of the processes of gene expression, transcription and translation in neuronal cells of brain of animals that survived the prenatal alcoholism and, thus, may provide the normal development of the cognitive functions of central nervous system. And increased expression of the protein bcl-2 in the group of animals receiving cerebrocurin and tiocetam, testifies to the activation of antiapoptosis protection of damaged neurons.*

At the present time neuroapoptosis is considered as one of the leading causes of cognitive frustration on the background of chronic alcoholism. In this case there are excessive generation of ROS and a significant deficiency of antioxidants in the organism. Currently there are practically no works about pharmacological correction of neuroapoptosis after prenatal chronic alcohol intoxication. Our works describ neuroprotective effects of cerebrocurin, tiocetam and pyracetam for alcohol

encephalopathy. Based on the above, the purpose of this work is to estimate the antiapoptic actions of cerebrocurin, tiocetam and pyracetam in the condition of prenatal alcohol intoxication.

Rats from 5-th to 20-th day of pregnancy received ethanol in the dose of 6-8 g/kg/day, control rats – isocaloric sugar solution. Seed of rats with chronic alcoholism received immediately after the birth during 25 days by intraperitoneal injection tiocetam (125 mg/kg), piracetam (125 mg/kg) and cerebrocurin (0.05 ml/kg), control group received saline solution. In each group were 20 newborns. Biochemical studies of the brain were held on the 26th day of the experiment, these animals were decapitated under thiopental anesthesia (30 mg/kg).

Our investigations established that the prenatal alcohol intoxication leads to increase of NO and inducted nitrosine stress in the brain of a newborn rats, evidenced by the increase of nitrotyrosine in cytosole and mitochondria by 63% and 73% respectively in the control group in comparison with the intact group.

Conducted experimental therapy from 1 to 25 days of life of animals that have suffered prenatal alcohol intoxication, lead to the decrease in the level of nitrotyrosine as in the mitochondria so in cytosole of the brain of rats. The greatest depression of the marker of nitrosine stress registered in the groups receiving tiocetam (53% - cytosole and 57% - mitochondrial fractions) and cerebrocurin (29% - cytosole and 43% - mitochondrial fraction) in comparison with a group of untreated animals and with the group, which provided piracetam. The data obtained are consistent with our previous work, which demonstrated high antioxidant activity of tiocetam and cerebrocurin.

So, histoimmunochemical studies have shown that density of Bcl-2-positive neurons in the CA-1 zone of the hippocampus was significantly lower (88%) in animals which have survived prenatal alcohol intoxication at 25 days of life, than in intact rats group. Introduction of cerebrocurin and tiocetam to animals, treated with prenatal alcohol intoxication, from 1 to 25 day of life had lead to a significant increase of the density of the Bcl-2-positive neurons in the CA-1 zone of the hippocampus by 111% and 77% respectively compared with the control group of animals. In control group, against the background of alcoholism among us for the first time determined the method of immunoblotting low expression of antiapoptotic protein Bc1-2 in animals.

Cerebrocurin suppressed all manifestations of apoptosis (products of ROS, and fragmentation of the nucleus in the neurons of CA-1 zone of the hippocampus, decrease the number of apoptotic modified cells) on the background of hyperexpression of Bc1-2 and by the strength of antiapoptotic actions reliably exceeded tiocetam and piracetam.

In addition, tiocetam is able to regulate the synthesis of protein and Red/Oxi-dependent expression of the global transcription factors, which take part in the processes of memory and also increase the speed of the turnover of informational macromolecules, protecting their structures from oxidative modification, shows energotrope action, and due to this modulate the level of Bc1-2 in the neurons.

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## ВЛИЯНИЕ ГОРМОНАЛЬНОГО ФОНА НА СОСТОЯНИЕ КОЖИ И ЕЁ ПРИДАТКОВ, РЕКОМЕНДАЦИИ ПО ЛЕЧЕНИЮ

Христенко Н.Е., Колганова Н.Л.
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IV медицинский факультет, Кафедра дерматологии, венерологии и медицинской косметологии
Научный(ые) Руководитель(ли): к.м.н. Беловол А.Н.

## INFLUENCE OF HORMONAL BACKGROUND ON THE STATE OF SKIN AND APPENDAGES, RECOMMENDATIONS FOR TREATMENT

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The 4th Medical Faculty, Department of Dermatology, Venereology and Medical Cosmetology
Scientific Adviser(s): Ph.D. Belovol A.N.

*The purpose of research is to reveal dependence of emergence of an acne and androgenic alopetion on level of sexual female hormones. Two group of supervision: 25 women aged from 30 till 40, 23 women aged from 40 till 55. In the first case, the disease proceeds chronically with gradual progressing and in 99% cases always it is possible to find increase of male hormones. In the second case androgenic alopetion develops as result of violation of a ratio between male and female hormones.*

Introduction. Skin is open book of our organism. Any diseases of internal secretion glands involves a hormonal disbalance: violation of a menstrual cycle, changes of integuments, the growth of hair follicles. It is necessary to understand the reason of emergence of a disease to cure skin and hair follicles. Statistic says that cases of androgenic alopetion make 90-95% of all cases of male alopetion and make 10-15% of all cases of female alopetion. Unlike diseases of head skin and other similar reasons of a hair loss, the androgenic alopetion is not independent pathology, it is symptom of a hormonal disbalance. Androgenic alopetion is alopetion that caused by violation of hormone metabolism in hairy head skin. Androgenic alopetion is slow process which can be compared to natural aging of skin or a whole organism. Patients make complaints to deterioration of hair approximately by 30-35 years. Gradually the head hair become thinner, lose volume, the color of hair decreases, hair become to grow slowly to a full stop. The purpose of research is to reveal dependence of emergence of an acne and androgenic alopetion on level of sexual female hormones.

Materials and methods. Group of supervision is 48 people aged from 30 till 55 years who has a medium-weight form of acne and alopetion. From them 25 women aged from 30 till 40 (52%), 23 women aged from 40 till 55 (48%). Disease duration at the time of the beginning of supervision varied from 3 till 16 years. Diagnostics methods are blood test and urine test to identify level changes of male sex hormones (androgens) and female sex hormones (estrogens). Level of the following male and female sex hormones was investigated: testosterone, androsterone, etiocholanolone, estrogens. General rules for blood tests to identify changes of hormone level: the tests shall be in the morning on an empty stomach from 8.00 to 11.00 a.m.; eating shall be not later than 12 hours prior to the blood test; on the eve of the research should be deleted reception alcohol, physical and emotional stress; one hour before the tests should abandon smoking. Women should be identified testosterone on 6-7 days of the menstrual cycle.

Results. Level of male sexual hormones in blood is raised at all examines of all patients. Patients from first group of supervision have normal or slightly raised level of an estrogen, patients from second group of supervision have lowered level of an estrogen.

Conclusions. We allocated 2 group: androgenic alopetion which has developed in the period from 14 to 40 years and androgenic alopetion which has developed after 40 years. It is necessary from the clinical point of view and for the correct approach to treatment. In the first case, the disease proceeds chronically with gradual progressing and in 99% cases always it is possible to find increase of male hormones. In the second case androgenic alopetion develops as result of violation of a ratio between male and female hormones, as a result of decrease in the last. Next recommendations were given. Treatment of androgenic alopetion must be complex. Doctors have not to try to decide this problem only "outside". Modern medical preparations that inflict on the skin of head are very effective, and results will be noticeable and stable only with the removal of hormonal disbalance and other internal problems. It is necessary to appoint hormonal preparations (oral contraceptives), that will help to remove internal reasons of androgenic alopetion. For this reason it is not treated during pregnancy. A doctor appoints the complex of necessary vitamins and microelements for the growth of hair depending on the individual necessities of organism. Except it a doctor appoints specific medical preparations that stop fall and stimulate grow of hair. As a rule, it is rubbed in the skin of head in the morning and in the evening. Depending on the state of hair, a course lasts from a few months to a few years. Laser therapy is effective in 98% cases.

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## РАЗРАБОТКА МЕТОДА ОПРЕДЕЛЕНИЯ КОНЦЕНТРАЦИИ L-ЛИЗИНА В СЫВОРОТКЕ КРОВИ

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## DEVELOPMENT OF A NEW METHOD FOR THE DETERMINATION OF L-LYSINE IN BLOOD SERUM

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