

ISSN 2509-4327 (print)
ISSN 2510-4780 (online)

Inter
GING



Deutscher Wissenschaftsherold German Science Herald

№ 4/2017

Die Zeitschrift „Deutscher Wissenschaftsherold“ ist eine Veröffentlichung mit dem Ziel ein breites Spektrum der Wissenschaft allgemeinverständlich darzustellen. Die Redaktionsleitung versteht sich als Vermittler zwischen Wissenschaftlern und Lesern. Durch die populärwissenschaftliche Bearbeitung wird es möglich unseren Lesern neue wissenschaftliche Leistungen am besten und vollständigsten zu vermitteln. Es werden Untersuchungen, Analysen, Vorlesungen, kurze Berichte und aktuelle Fragen der modernen Wissenschaft veröffentlicht.

Impressum

Deutscher Wissenschaftsherold – German Science Herald

Wissenschaftliche Zeitschrift

Herausgeber:

InterGING

Sonnenbrink 20

31789 Hameln, Germany

Inhaber: Marina Kisiliuk

Tel.: + 49 51519191533

Fax.: + 49 5151 919 2560

Email: info@dwherold.de

Internet: www.dwherold.de

Chefredakteur/Editor-in-chief:

Marina Kisiliuk

Korrektur:

O. Champela

Gestaltung:

N. Gavrilets

Auflage: № 4/2017 (September) – 30

Redaktionsschluss September, 2017

Erscheint vierteljährlich

Editorial office: InterGING

Sonnenbrink 20

31789 Hameln, Germany

Tel.: + 49 51519191533

Fax.: + 49 5151 919 2560

Email: info@dwherold.de

Deutscher Wissenschaftsherold - German Science

Herald is an international, German/English language,

peer-reviewed, quarterly published journal.

№ 4/2017

Passed in press in September 2017

Druck: WIRMachenDRUCK GmbH

Mühlbachstr. 7

71522 Backnang

Deutschland

Der Abdruck, auch auszugsweise, ist nur mit ausdrücklicher Genehmigung der InterGING gestattet. Die Meinung der Redaktion oder des Herausgebers kann mit der Meinung der Autoren nicht übereinstimmen. Verantwortung für die Inhalte übernehmen die Autoren des jeweiligen Artikels.

INDEXING: Google Scholar, WorldCat, Index Copernicus, InfoBase Index, Journal Index, Citefactor, International Scientific Indexing, JIFACTOR, Scientific Indexing Services, International Institute of Organized Research.



JIFACTOR



CiteFactor

Academic Scientific Journals



Scientific Indexing Services



INTERNATIONAL
Scientific Indexing



MIAR

<http://miar.ub.edu/issn/2509-4327>

© InterGING

© Deutscher Wissenschaftsherold – German Science Herald

REDAKTIONSKOLLEGIUM / INTERNATIONAL EDITORIAL BOARD:

Jurga Bernatoniene, Dr., Prof.
Physics Lithuania
jurgabernatoniene@yahoo.com

Arvidas Galdikas, Dr. habil., professor
Physics Lithuania,
arvidas.galdikas@ktu.lt

Kristina Ramanauskienė, Ph.dr., Prof.
Pharmacy, Lithuania
kristinaraman@gmail.com

Khpaliuk Alexander, Dr. med. habil., Prof.
Pharmakologie, Belarus
clinicfarm@bsmu.by

Arnold M. Gegechkori, Dr., full Prof.
Biology, Georgia
arngegechkori@yahoo.com

Omari Mukbaniani, Prof., DSc.
Chemistry, Georgia
omar.mukbaniani@tsu.ge

Teimuraz Lezhava, Prof.
Genetics, Georgia
teimuraz.lezhava@tsu.ge

Shota A. Samsoniya, Prof.
Chemistry, Georgia
shota.samsonia@tsu.ge

Mdzinarashvili Tamaz, DSc., Prof.
Biophysics, Georgia
tamaz.mdzinarashvili@tsu.ge

Aliaksandr V.Prokharau, MD, PhD, MSc Prof.
Oncology, Belarus
aprokharau@gmail.com

Pyrochkin V., MD, PhD, MSc Prof.
Theraphy, Belarus
wlad_cor@mail.ru

Golubev A.P., BD, Prof.
Ecology, Belarus
algiv@rambler.ru

Makarevich A., MD, PhD, Prof.
Theraphy, Belarus
makae@bsmu.by

Kanunnincova N., BD, Prof.
Physiology, Belarus
n.kanunnikova@grsu.by

Giedrius Vanagas, Prof.
Internal Medicine, Lithuania
Giedrius.Vanagas@lsmuni.lt

Armuntas Baginskas, Prof.
Neurofiziologija, Lithuania
Armuntas.Baginskas@lsmuni.lt

Ricardas Radisauskas, MD., Ph.D., Prof.
Cardiology, Lithuania
Ricardas.Radisauskas@lsmuni.lt

Meyramov Gabit, Prof.
Cytology and Histology, Kazakhstan
meyramow@mail.ru

Aisha Mohammed Abd al-salam Shahlol
Ph.D. in Medical Bacteriology, Libya
Ais.shahlol@sebhau.edu.ly

Edmundas Kadusevicius, MD, PharmD, PhD, Prof.
Pharmacology, Lithuania
Edmundas.Kadusevicius@lsmuni.lt

Ivo Grabchev, Prof., PhD.
Chemistry, Bulgaria
i.grabchev@chem.uni-sofia.bg
grabchev@mail.bg

Mariyana Ivanova Lyubenova, Prof., PhD.
Ecology, Bulgaria
ryann@abv.bg
ryana_1@yahoo.com

Tsvetanka Tsankova Marinova, MD, PhD, DMedSci,
Biologv. Bulgaria
tmarinova@yahoo.com

Evgueni D. Ananiev, Prof PhD,
Biology. Bulgaria
evgueni_ananiev@yahoo.com

Plamen G. Mitov, Prof., PhD.
Biology, Bulgaria
mitovplamen@gmail.com

Atanas Dimov Arnaudov, Ph.D.
Physiology, Bulgaria
arny87@yahoo.co.uk

Iliana Georgieva Velcheva, PhD,
Ecology, Bulgaria
anivel@abv.bg

Osman Demirhan, Prof.
Biology, Turkey
osdemir@cu.edu.tr

Jharna Ray, M. Sc., PhD, Prof.
Neurogenetics, India
Indijharnaray@gmail.com

Marián Halás doc. RNDr, Ph.D.
Human geography, Czech
marian.halas@upol.cz

Ayfer Pazarbasi Prof.Dr.
Biology, Turkey
payfer@cu.edu.tr

Tusharkanti Ghosh Prof.
Physiology, India
tusharkantighosh53@yahoo.in

Khudaverdi Gambarov Gambarov, Prof.
Microbiology, Azerbaijan
khuda1949@mail.ru

Rovshan Ibrahimkhalil Khalilov, Prof.
Biophysics, Azerbaijan
hrovshan@hotmail.com

Svitlana Antonyuk, Dr.phil.
Stony Brook University, USA
Linguistics

Samuel M.Johnson, Prof.Dr.phil.
Theology, Wells, Maine, USA
djtjohnson@earthlink.net

Satanovsky Leon MD/PhD.
Perio-odontologie, Israel
satleonid@gmail.com

Lists of references are given according to the Vancouver style

Talanova O.S,
Apt O.A.

The department of human anatomy, operative surgery and Topographic anatomy, Zaporozhye State Medical University, Zaporizhzhya, Ukraine, talanova_2003@mail.ru

SPECIFICS OF DISTRIBUTION OF GLYCOSAMINOGLYCANS IN THE WHITE PULP OF THE SPLEEN AND STROMA OF RATS AFTER EXPERIMENTAL MODELING INJECTION INSIDE THE FETUS OF ANTIGENS OF DIFFERENT NATURE

Abstract. *This work describes peculiarities of rat's splenic white pulp and stromal elements structure attached to different terms after the birth normally and after intrauterine injection of antigens of different kinds. It's established that intrauterine injection of antigens with different nature leads to quantitative changes in the accumulation of glycosaminoglycans low sulphated to 11 days of life, and high sulphated compounds on the first month of life, regardless of the antigen type, that may be a manifestation of qualitative imbalance in the formation of connective tissue in different functional zones of the rat's spleen. The majority of these changes disappear up to 90th day after the birth.*

Key words: *spleen, white pulp, stroma, connective tissue, morphogenesis, intrauterine antigens injection, glycoproteins*

Introduction. Recently observed a progressive increase in the number of infectious and allergic diseases in infants, which makes it necessary to study the role of the immune system in these processes and develop new parenteral and oral vaccines because children's health is one of the most important indicators of the country's well-being and health in general. There is a high frequency of pathological course of pregnancy, infection of pregnant by various antigens [6], accompanied by a dysfunction of the placenta and inside the fetus action of antigens of different nature on the fetus [1-5].

Objective. To establish the distribution of structures glycosaminoglycans in rat spleen in normal and after intrauterine injection of antigens of different nature by using of experimental models.

Materials and methods. The object of the study was 196 spleen of white rats aged from 1st to 90th day of postnatal life. Inside the fetus injection of antigens and saline by operational measures conducted by the method of M.A. Voloshin. For this purpose on 17-18 th day after insemination pregnant females midline laparotomy was done under the anesthesia, adhering to all the rules of aseptic and antiseptic. Fetus, which were getting from the abdominal cavity through the uterus, through the shell, subcutaneously, in interscapular area and in amniotic fluid injected by 0.05 ml of the respective solution. Peritoneum and muscle layers were

continually sewn by catgut seams. The animals were divided into 4 groups: - intact rats; II (control) – animals after inside the fetus injection of saline solution; III - rats, which injected by the vaccine Vaxigrip in utero; IV – animals which was injected by the vaccine of parotitis in utero. The whole complex of glycosaminoglycans founded by the alcyonic blue solution at pH 2,6 the critical concentration of MgCl₂ 0.2M. Differentiation of non-sulfated, low - and high sulfated compounds was performed after processing of sections of testicular hyaluronidase. Low- and high sulfated glycosaminoglycans distinguished with using of color sections solutions alcyonic blue with a critical concentration of MgCl₂ 0.6M, 0.2M.

Results and discussion. Newborn animals III and IV group in the capsule, trabeculae and stromal cells of splenic white pulp the total content of glycosaminoglycans greater due to the low sulfated forms and hyaluronic acid, compared with animals of intact group. Revealed changes in an organism of newborns after inside the fetus injection of antigen, regardless of route of injection and its nature, reflecting the imbalance in the terms and rate of formation of parenchyma and stroma [1, 3]. All groups of rats for 1 - the 90th day of observation the non-sulfated content decrease and increase the content of low- and high sulfated glycosaminoglycans. In the third and fourth groups accumulation of sulfated compounds occurs faster pace to 11 days. This difference is almost leveled, and the total content

of glycosaminoglycans increased on a 14 days in all groups. On the 21st day of life in the capsule, trabeculae high sulfated accumulation of glycosaminoglycans in the third group of animals runs faster. By the 90th day of life the difference between the accumulation of glycosaminoglycans in different groups was not found. This reflects a change of pace and timing of the formation of the local immune system. There is occurrence and the development of hyperplastic processes in internal organs, leading to advance their quality functional establishment (Which had previously been shown in studies of Ivanova N.E., Novosyolova O.A., Svetlitsky A.A., Chuhina S.V., Karzova M.V.). Undulating change of color intensity of SHYK-positive structures correlated with episodes of acceleration and deceleration organ morphogenesis. Backlog growth rates of thick muscular layer of the animals, injected with the antigen, was previously registered in the development of the small intestine, showing the inverse correlation with our results.

Conclusions. Newborn animals which were subjected to prenatal antigenic action, regardless of route of injection and the nature of the antigen, reduces amylase resistant glycoproteins and increased glycogen content in the structures of the spleen, which is observed on 45 days of life, compared to the intact group of rats, but rates leveled on 90 days. Newborn animals, antigen primed groups in the capsule of the spleen, the total content of glycosaminoglycans is more due to low sulfated forms, compared with animals intact group. The content of glycosaminoglycans increases the maximum 14 days in all groups. In rats during from 1 to 90 days of observation increases non-sulfated and decreases low sulfated and high sulfated and glycosaminoglycans for 90 days of life the difference between the accumulation of glycosaminoglycans graded.

So into the fetus action antigen results in quantitative changes in the accumulation of

glycosaminoglycans low sulfated to 11 days of life, and high sulfated compounds on the first month of life, regardless of the antigen type, that may be a manifestation of qualitative imbalance in the formation of connective tissue.

Prospects for further research. Continued study of the role of immune mechanisms to monitor differentiation and maturation of cells of the whole organism in conditions of fetal antigen will help to determine the factors of risk of disturbances in the mother-placenta-fetus as a result of infection of the fetus during pregnancy.

References:

1. Voloshin NA, Grigoryeva EA, Kushh OG. *Vnutriutrobnoe vedenie antigena - model' dlja izuchenija roli limfocitov v procesah morfogeneza vnutrennih ogranov. Zaporozh. med. zhurn. 2005;(3):12.*
2. Voloshin NA. *Limfocit - faktor morfogeneza. Zaporozh med zhurn. 2005;(3):122.*
3. Grigor'eva EA, Dovgal' GV. *Izuchenie reaktivnosti timusa, slezenki, limfouzlov i limfoidnoytkani, asociirovannoj s kishechnikom, poslechronicheskogo vvedenija kardiotropnogo preparata. Ukr. morfologichnij al'manah. 2013;13(3):8-11.*
4. Matveyshina TM, Talanova OS, Grinivec'ka NV. *Osoblivosti morfogenezu vnutrishnih organiv shhura pislja vnutrishn'outrobnogo vplivu inaktivovanoi antivirusnoi vakcini. Ukr morfologichnij al'manah. 2011;9(3):180-2.*
5. Voloshin NA, Grigor'eva EA, Shherbakov MS. *Vnutriutrobnaja antigennaja stimuljacija kak model' dlja izuchenija simptomokompleksa visceromegalin. Tavricheskij mediko-biologicheskij vest nik. 2006;9(4):57-79.*
6. Mislic'kij VF, Tkachuk SS, Tkachuk OV. *Patogenetichni osnovi vnutrishn'outrobnih infekcij. Klinichna ta eksperimental'na patologija. 2011;10(2):137-41.*

CONTENT:

Galagdina A.A., Dmytrenko R.R., Bambuliak A.V. Diagnostics of ischemic-reperfusion damage of the brain in rats afflicted with diabetes mellitus	3
Guranych S.P., Voronych-Semchenko N.M., Guranych T.V. Macro- and microelement status of rats with insulin resistance against the ground of iodine deficiency	6
Fedyshyn T.V., Maliar V.V., Maliar V.A. Peculiarities of utero-placental blood circulation formation in women with spontaneous and recurrent miscarriages associated with vagina dysbiosis	10
Rusnak V.F., Bedyk V.V. Growth of the pharynx at the end of the fetal stage of human ontogenesis	13
Teplytskyi S.S. Formation and development of the skin on the palmar surface of the hand throughout the period of prenatal ontogenesis and its importance in dermatoglyphics	16
Tkachuk N.P., Bilookyi V.V., Gyrla Ya.V., Sheremet M.I. Evaluating the efficiency of the scale for prediction of post-operational relapse in patients with nodular goiters	20
Yemelyanenko N.R. Anatomical transformations of the nasal septum in childhood	24
Kavun M.P. Morphogenesis of the hepatic-duodenum ligament in early ontogenesis of the human	26
Kotyuzhinskaya S.G., Umansky D.A. Functional state of lipittransport system in patients with atherosclerosis with fatty load	28
Lomakina Yu.V., Burdeina M.P. Stress-associated changes in the excretory function of the kidneys in old rats under the conditions of a usual light period	32
Malyar V.V. Structural and functional features of fetal membranes in pregnant women with moderate idiopathic oligo- and polyhydramnios	35
Nesterak R.V., Gasyuk M.B. Pilot investigation of the method of interactive training of patients at the stage of medical rehabilitation and treatment	38
Pecheryaga S.V., Marinchina I.M. Features of hemodynamic changes in spiral arteries with low placentation at the early gestational age	42
Psychenko V.V., Chernov V.S., Frenkel Yu.D. The status of extraorganic blood flow in pineal gland of rats under conditions of acute stress and twenty-four hour darkness	44
Reshetilova N.B., Glubochenko O.V., Kulish N.M., Dudko A.G. Formation of anterior cerebral vesicle cavities at the 5th week of the embryonic period	47
Riznichuk M.O., Galitskaya V.O., Dyhodyuk Yu.V., Kravchuk Yu.V., Vakaryuk O.V. Prader-willi syndrome, diagnostics and currency features	50
Shalamay U.P., Pavlikivska B.M., Voronich-Semchenko N.M. The state of autonomous heart regulation in adolescents with light iodine deficiency and latent iron deficiency	52
Shutova N.A., Nikolayeva O.V., Sulkhodost I.O. Electromagnetic radiation impact on the cellular protective mechanisms in experiment	58
Yasnikovska S.M., Hrytsak H. Evaluation of clinic-laboratory and ultrasonic research results in different forms of the chorion's pathology in the first three-month of gestation	61
Yashchyshyn Z.M., Zaiats L.M., Yurkiv I.Y., Maslyak K.T., Vodoslavskaya N.Y., Sikomas M.T. Changes in neuroglial interrelation of muscle-intestinal nerve plexus of esophagus after one-sided crossing of vagosympathetic trunk	64
Navarchuk N.M., Kosteniuk S.V. Morphogenesis of the dentognathic apparatus during the early times of the human ontogenesis	67
Rusnak V.F., Bedyk V.V. Features of pharyngeal morphogenesis in five-week embryos	70
Talanova O.S., Apt O.A. Specifics of distribution of glycosaminoglycans in the white pulp of the spleen and stroma of rats after experimental modeling injection inside the fetus of antigens of different nature	72
Pivtorak K.V., Mazur I.A., Voloshin M.A. Correction of metabolic disorders caused by non-alcoholic fatty liver disease	74
Rozhko V.I. Research of content correlation of immunoglobulins and lisozyme in oral fluid of children with rampant caries against the background of gastro-intestinal diseases	78
Karavan Ya.R., Havaleshko V.P. Up-to-date anesthetic possibilities in dentistry practice in diagnosis of the patient's allergic status	80



Deutscher Wissenschaftsherold German Science Herald

**Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed
bibliographic data are available on the Internet at <http://dnb.dnb.de>**

**№ 4/2017 – 30
Passed in press in September 2017**



WirmachenDruck.de

Sie sparen, wir drucken!