European science review

№ 1–2 2016
January–February

«East West» Association for Advanced Studies and Higher Education GmbH

Vienna
2016

European Sciences review

Scientific journal

№ 1–2 2016 (January–February)

ISSN 2310-5577

Editorial office

European Science Review "East West" Association for Advanced Studies and Higher Education GmbH, Am Gestade 1 1010 Vienna, Austria

E-mail:

info@ew-a.org

Homepage

www.ew-a.org

European Science Review is an international, German/English/Russian language, peer-reviewed journal. It is published bimonthly with circulation of 1000 copies.

The decisive criterion for accepting a manuscript for publication is scientific quality. All research articles published in this journal have undergone a rigorous peer review. Based on initial screening by the editors, each paper is anonymized and reviewed by at least two anonymous referees. Recommending the articles for publishing, the reviewers confirm that in their opinion the submitted article contains important or new scientific results.

Instructions for authors

Full instructions for manuscript preparation and submission can be found through the "East West" Association GmbH home page at: http://www.ew-a.org.

Material disclaimer

The opinions expressed in the conference proceedings do not necessarily reflect those of the «East West» Association for Advanced Studies and Higher Education GmbH, the editor, the editorial board, or the organization to which the authors are affiliated.

Typeset in Berling by Ziegler Buchdruckerei, Linz, Austria.
Printed by «East West» Association for Advanced Studies and Higher Education GmbH, Vienna, Austria on acid-free paper.

Table 1. – Effect of chitosan derivatives on microsomal oxidation in the liver of rabbits with the metabolic syndrome (M ± m)

Group	Microsomes				
	P-450, nmol/mg	b5, nmol/mg	NADPN – cyt.-c. red. nmol/min/mg	AN, nmolHCHO/ min/mg	AG, nmolaminofen/ min/mg
Intact	0.985 ± 0.030	0.593 ± 0.021	94.4 ± 8.48	7.0 ± 0.492	1.09 ± 0.06
MS	0.703 ± 0.024*	0.491 ± 0.004*	38.0 ± 2.94*	3.6 ± 0.28*	0.51 ± 0.026*
MS + chito-san sulfate	0.775 ± 0.033*	0.484 ± 0.024*	49.6 ± 3.27*	4.4 ± 0.30*,**	0.57 ± 0.024*
MS+chitosan sulfate nano	0.837 ± 0.026*,**,***	0.518 ± 0.019*	53.8 ± 2.48*,**,***	5.5 ± 0.177*,**,***	0.67 ± 0.034*,**,***
MS+glyuko fazh	0.706 ± 0.032*	0.497 ± 0.021*	45.7 ± 1.76*	3.6 ± 0.28*	0.54 ± 0.032*

*Note: * — differences with respect to the data of the control group significant: * — P < 0.05; ** — P < 0.01; *** — P < 0.001.*

Investigating the effects of two forms of chitosan — chitosan sulfate and it's nano forms on monooxygenase system showed a significant increase in the content of cytochrome P-450. When administered chitosan and its sulfate form nano levels of cytochrome P-450 exceeded by 10.2 and 19.1 % (P < 0.05 and P < 0.05, respectively) compared to those animals with MS parameters. Chitosan Sulfate and its nano form of significant changes in the content of cytochrome b5 causes. Chitosan Sulfate significantly to 30.45 % (P < 0.01) increases the activity of only NADPH-cytochrome c-red. compared to the untreated group. At the same time nano form of chitosan sulfate increases more significantly as the activity of NADPH-cytochrome c-red and aminopyrine demethylase-N-, anilingidroksilazy 41.6; 53.6; 31.7 % (P < 0.001), respectively, compared with the untreated group.

A study comparing the action of the drug — Glucophage has shown that it is not sufficiently active to enhance the functional activity of the microsomes. Glucophage is widely used as a means of correction dismetabolic disorders in MS development. Perhaps it is not related to the effect of the influence on the processes oxidase and oxygenase way of oxidation.

Conclusions

Thus, studies have shown that the development of MS is observed pronounced inhibition of the functional activity of cytochrome P-450 system in the liver microsomes.

References:

1. Балаболкин М. И., Клебанова Е. М., Креминская В. М. Возможна ли патогенетическая терапия сахарного диабета 2-го типа// Пробл. эндокринол. – 2008. – Т. 54, № 5. – С. 50–56.
2. Кульманова М. У., Сабирова Р. А., Милушева Р. Ю. Влияние хитозана на защитный барьер кишечника при развитии хронического гелиотринового гепатита//Врач-аспирант. – 2009. – № 6. – С. 435–442.
3. Саидов С. А. Моделирование метаболического синдрома у кроликов//Врач. дело. – 2006. – № 3. – С. 58–61.
4. Omura T., Sato R. The carbon – monooxide binding pigment of liver micrisomes. J. evidence for hemoprotein nature//J. Biol. Chem. – 1968. – V.7. – P. 2370–2378.
5. Bast A., Nordhook J. Product inhibition during the hepatic N-demethylation of aminopyrine in the rat//Biochem. Pharmacol. – Vol. 30, № 1. – P. 19–24.
6. Гидроксилирование производных анилина и аминоантипирина (1-фенил-2,3-диметил-аминопиразолон-5) в эндоплазматическом ретикулуме печени/А. И. Арчаков, И. Н. Карузин, В. Н. Тверитапов, И. С. Кокарева//Биохимия. – 1975. – Т. 40, вып. 1. – С. 29–32.
7. Williams C. Y., Kamin H. Microsomal triphosphopyridine nucleotide – cetochrome c-reductases of liver//J. Biol. Chem. – 1961. – Vol. 237, № 2. – P. 587–595.
8. Lowry O. N., Resebrough W. S., Farr L. Protein measurement with dolin reagent//J. Biol. Chem. –1951. – V. 193, № 4. – P. 265–275.
9. Guengerich F. P. Cytochrome P-450 3A4: regulationand role in drug metabolism//Annu Rev Pharmacol Toxicol. – 1999. – V. 39. – P. 1–17.

Kolenko Yulia Gennadiivna,
A. A. Bogomolets National Medical University, Kyiv,
PhD, Associate Professor
E-mail: kolenko.julia@gmail.com

Precancerous diseases in the structure of oral mucosa pathology

Abstract: The study presents the results of the research on the structure, local and systemic risk factors, peculiarities of the clinical manifestation, quality of primary diagnosis of precancerous oral mucosa lesions and red border of the lip. The high percentage of diagnostic errors and lack of oncological awareness of dentists, as well as the necessity of inclusion of precancer early detection techniques are noted.

Keywords: precancerous oral mucosa diseases, early diagnosis, the occurrence of diseases of oral mucosa diseases.

Many forms of oral mucosa diseases and red border of the lips characterized by chronic relapsing course, occur with severe clinical symptoms, can provoke the development of systemic diseases, and lead to a reduction of dental quality of life [2; 3]. Many chronic diseases of the oral mucosa have a high oncogenic potential [4]. According to experts [5; 8], the share of oncological diseases of the maxillofacial region is accounted for 2.4 % of all malignant neoplasms, and "coarse" and standardized mortality rates from malignant tumors of the maxillofacial area (lip, tongue, salivary glands, other and unspecified parts of the oral cavity, oropharynx) in

Ukraine are amounted to 8.88 and 5.64 per 100 000 population [6]. A high percentage of detection of malignant tumors of the maxillofacial region in the III and IV stages of cancer indicates a lack of alertness at the dentists. Early detection of precancerous lesions of the maxillofacial region should become an integral part of medical and dental checkups [1].

An analysis of the prevalence and clinical structure of precancerous diseases of the oral cavity allows us to identify the need for the provision of specialized dental care, identify priority tasks to improve the quality of diagnosis and treatment of patients with this profile.

The aim of this study was to examine the prevalence of precancerous diseases of the oral mucosa in the adult population.

Material and methods

In the period from 2010 to 2015 at the Department of Operative Dentistry of A. A. Bogomolets National Medical University a comprehensive dental examination and treatment was conducted for 423 patients aged 20 to 87 years with precancerous diseases.

Clinical examination oral mucosa was conducted according to the WHO recommendations [2]. The examination included the elucidation of the major complaints and medical history, objective assessment of oral mucosa and red border of the lips according to the visual, stomatoskopia, luminescent analysis, cytosine, histological studies.

The evaluation of the quality of primary diagnosis of disease oral mucosa was conducted based on the copies of the case histories of dental patients, references from dentists and/or doctors, internists, case history data. The levels (I–IV) diagnosis of primary disease, complete the formulation of clinical diagnosis, reflecting the diversity of the patient revealed diseases oral cavity, maxillofacial area; calculated the percentage of patients without survey, cases of overdiagnosis, direct diagnostic errors [7].

We analyzed the answers to the questionnaire on the following clusters of issues: dental uptake, adherence to treatment and attitudes to dental care; clinical manifestations of precancerous diseases oral mucosa; presence and types of orthopedic structures in the oral cavity; the consistency and the temperature of food intake; the nature of tooth brushing; bad habits; the level of knowledge on the prevention of dental diseases.

Results of the study were treated by variational statistics using the index method φ the angular conversion Fisher.

Results of the study

In a cohort of surveyed 79.5 % residents of Kyiv dominated, 20.5 % of the patients lived in various regions of Ukraine. Patients received a reference to state dentists (45.5 %) or private (23.9 %) dental clinics (surgeries), specialists of medical institutions (15.3 %); self-addressed for medical advice — 15.3 % of patients.

The structure and the prevalence of precancerous diseases oral mucosa, identified on the basis of a comprehensive survey of patients was as follows: cheilitis Manganotti — 3.55 % of patients, erosive and ulcerative form of leukoplakia — 16.55 %, papilloma — 1.42 %, flat shape of leukoplakia — 24.82 %, chronic ulceration of mucous membrane — 4.26 %, and the erosive and hyperkeratotic form of lichen ruber planus — 44.21 %, post radiography cheilitis and stomatitis — 1.64 % and the meteorological and actinic cheilites — 3.55 %.

Noteworthy is the prevalence of precancerous diseases among patients with leukoplakia — 41.37 % and lichen ruber planus — 44.21 %. The level of detection precancerous diseases oral mucosa for current and prior medical history of the individual nosoform almost identical ($t = 2.03$; $p < 0.05$), which testifies to the truth of the above indicators.

The incidence of pre-cancerous diseases oral mucosa averages 29.2 ± 1.0 %. These diseases have an adverse effect on the dental status of city dwellers. In particular, the light, not causing concern forms, diseases of oral mucosa proceeded in 118 of 423 patients (28.4 ± 1.8 %), they were not referred for dental care, they use different dental rinses of mouth.

The remaining 305 patients with pre-cancerous diseases proceeded to clinical forms, accompanied by a variety of ailments (pain, mucous roughness, dryness and other), difficult chewing, difficult oral hygiene, duration of the disease (up to 14 days). All respondents asked for dental care, but it was usually late. However, 224 of the 423 patients were dissatisfied with the quality and efficacy of their treatment (52.7 ± 2.4 %).

Firstly, they have subsequently developed recurrences diseases oral mucosa and their development in other areas of the mucosa. And this leads to the re-uptake of dental help and disability. Secondly, dentists are less attentive to diseases oral mucosa than to teeth and periodontal diseases, proposing antiseptic mouthwash. Thus, this requires testing methods for differentiated and effective treatment of precancerous diseases oral mucosa.

Between age and the level of mental retardation of patients observed a strong positive correlation ($r = +0.95 \pm 0.04$). For example, if a group patients, whose age does not exceed 20 years, the rate level oral mucosa equal to 16.3 ± 2.5 %, then with increasing age, it has been consistently increased, reaching 37.7 ± 4.0 % among patients over 70 years ($t = 4.53$; $p < 0.001$). The analysis of all data obtained by questionnaire, allows us to interpret these regularities.

The first of these is the fact that 266 of the 423 patients in the oral examination have different types of prosthetic (62.6 ± 1.0 %). The remaining 157 cases of precancerous diseases oral mucosa were observed in patients without prosthetic (19.3 ± 1.4 %; $t = 8.22$; $p < 0.001$). Therefore, with all probability it can be assumed that the orthopedic design injures oral mucosa, violates its integrity and thus creates the possibility of the development of precancerous diseases.

The second pattern is the fact that although men and women with increasing age equally increases the level of precancerous diseases oral mucosa, but incidence among the first total significantly higher than the latter. Thus, cases of precancerous diseases oral mucosa were detected in 229 of 423 men (54.1 ± 1.4 %) and 194 women from 423 (45.9 ± 1.4 %; $t = 4.65$; $P < 0.001$).

Conclusion

These data allow us to recognize that precancerous diseases oral mucosa is one of the factors that worsen the dental status of the adult population. For the etiology of these diseases are important age and sex structure of the population, the presence of harmful habits, as well as technological quality of prosthetic and restorations. Increasing public commitment to timely dental uptake of precancerous diseases of oral mucosa and the use of technology in their radical treatment will both improve treatment and limit the malignancy of the disease among the population.

References:

1. Gileva O., Beleva N., Gileva E. et al. A comparison of two lumenoscopic techniques for visualizing oral aesthetic lesions//Nordic-Baltic Oral Medicine meeting. Abstracts. – Sweden, Malmö, 2007. – P. 22.
2. Kois J. C., Truelove E. Detecting oral cancer – a new technique and case reports//Dentistry Today. – 2006. – Vol. 25, № 10. – P. 94–97.

3. Laskaris G. Oral manifestations of infections diseases//Dent. Clin. North Am. – 2005. – V. 40. – P. 395–423.
4. Lau L. Oral Health in America: A report of the surgeon general. – Rockville, Md: US Public Health Service, Dept of Health and Human Services, 2000. – P. 1–13.
5. Malkolm P. Epidemiology of oral diseases. – Geneva, 2004. – P. 116.
6. Michalich M., Moor P., Polsen S. et al. Role of epidemiology factors in diseases of the buccal mucosa//Arch. Oral. Biol. – 2006. – V. 51. – P. 348–353.
7. Ockert S., Flemming R., Offenbach O. Medico-social aspects in diseases of the buccal mucosa//Oral Pathol. Med. – 2006. – V. 35. – P. 63–68.
8. Poh C. F. et al. Fluorescence visualization detection of field alterations in tumor margins of oral cancer patients//Clin. Cancer Res. – 2006. – Vol. 12, № 22. – P. 6716–6722.

Krasniqi Marsida,
Catholic University «Our Lady of Good Counsel» Tirana, Albania
Bino Silvia,
Institute of Public Health, Tirana, Albania
E-mail: k_marsida@yahoo.it

Geographic distribution and differential diagnosis of cases with suspect hemorrhagic fever in Albania

Abstract: Viral hemorrhagic fevers refer to a group of illnesses that are caused by several distinct families of viruses. In general, the term "viral hemorrhagic fever" is used to describe a severe multisystem syndrome. Specific signs and symptoms vary by the type of virus of hemorrhagic fever; signs and symptom include marked fever, fatigue, dizziness, muscle pain, loss of strength, and exhaustion. Patients with severe cases show signs of bleeding under the skin, in internal organs, or mouth, eyes and ears. The aim of this study is to identify the etiology of the cases suspected of hemorrhagic fever and to create the geographic distribution of different virus in Albania. The study analysis the 128 cases suspected of hemorrhagic fever for a period of January 2013 to December 2015. The result show that only 21 % were positive for Crimea Congo hemorrhagic fever, 9 % for Hantan and 3 % for Leptospirosis, and others results negative. The differential diagnosis was made by Elisa methods. The mean age of the patients that were positive for IgG and IgM by Elisa, was 45.7 ± 22.9 years. The distribution of the patients was in different part of Albania, most frequently in north Albania, especially for Crimea Congo hemorrhagic fever. The distribution was correlated with the seasonality and profession of patients.

Keywords: Geographic distribution, hemorrhagic fever, differential diagnosis, Albania.

Introduction

Viral hemorrhagic fevers refer to a group of illnesses that are caused by several distinct families of viruses. In general, the term "viral hemorrhagic fever" is used to describe a severe multisystem syndrome. Specific signs and symptoms vary by the type of virus of hemorrhagic fever; signs and symptom include marked fever, fatigue, dizziness, muscle pain, loss of strength, and exhaustion. Patients with severe cases show signs of bleeding under the skin, in internal organs, or mouth, eyes and ears [1].

Viruses associated with most Viral Hemorrhagic Fevers are zoonotic. This means that these viruses naturally reside in an animal reservoir host or arthropod vector. The cotton rat, deer mouse, house mouse, and other field rodents are examples of reservoir hosts. Arthropod ticks and mosquitoes serve as vectors for some of the illnesses [2].

The viruses that cause Viral Hemorrhagic Fevers are distributed over much of the globe. Because the virus is associated with a particular host species, the virus and the disease it causes are seen only where the host live [3].

Viruses causing hemorrhagic fever are initially transmitted to humans when the activities of infected reservoir hosts or vectors and humans overlap. The viruses carried in rodent reservoirs are transmitted when humans have contact with urine, fecal matter, saliva, or other body excretions from infected rodents. The viruses associated with arthropod vectors are spread most often when the vector mosquito or tick bites a human, or when a human crushes a tick [4].

The aim of this study is to identify the virus of the cases suspected of hemorrhagic fever and to evaluate the geographic distribution of the virus in Albania.

Material and Methods

The 128 patients, presented from January 2013 to December 2015 at the Department of Infection disease in Tirana and suspected for hemorrhagic fever, were taken in this study. 128 blood serum samples were taken from the Institute of Public Health of Tirana to confirm the diagnosis. We performed immunoglobulin IgM and IgG enzyme-linked immunosorbent assay (ELISA).

All of the patients had similar clinical and laboratory findings, including fever, petechiae, headache, abdominal pain, nausea, vomiting and liver enzyme elevations.

Data as gender, age, occupation, settlement, time of symptoms and relation with vectors, hosts or humans who were sick was collected from the patients. The data was analyzed by SPSS program. The continued variables were presented as mean and standard deviation; categorized variables were presented as percentage.

Results. From 128 blood serum sample, only 34 % (n = 43) were positive for IgG and IgM by Elisa methods for hemorrhagic fever. In 43 (34 %) patents with hemorrhagic fever, 63 % was positive for Crimea Congo Hemorrhagic Fever, 28 % was positive for Hantan and 9 % for Leptospirosis.

Contents