

The Seventh European Conference on Biology and Medical Sciences

5th September, 2015



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

**Vienna
2015**

Proceedings of the 7th European Conference on Biology and Medical Sciences (September 5, 2015). «East West» Association for Advanced Studies and Higher Education GmbH. Vienna. 2015. 84 P.

ISBN-13 978-3-903063-79-2

ISBN-10 3-903063-79-7

The recommended citation for this publication is:

Mihai M. (Ed.) (2015). Proceedings of 7th European Conference on Biology and Medical Sciences (September 5, 2015). Vienna, OR: «East West» Association for Advanced Studies and Higher Education GmbH, Vienna.

| | |
|--------------------------------------|---|
| Editor-in-chief | Maia Mihai, Romania |
| International editorial board | Emilija Marković, Croatia Judit Ráczné, Hungary Jaroslav Hrinchenko, Ukraine Mircho Todorov, Bulgaria |
| Proofreading | Andrey Simakov |
| Cover design | Andreas Vogel |
| Contacts | “East West” Association for Advanced Studies and Higher Education GmbH, Am Gestade 1 1010 Vienna, Austria |
| Email: | info@ew-a.org |
| Homepage: | 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.

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

All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the Publisher.

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.

References:

1. Johna S., Taylor E., Brown C., Zimmerman G. Abdominal compartment syndrome: does intra-cystic pressure reflect actual intra-abdominal pressure? A prospective study in surgical patients. *Crit Care* 1999; (3): 135–135.
2. Sanchez N. C., Tenofsky P.L. Dort J. M. et al. Wat is normal intra-abdominal pressure. *Am Surg* 2001 Mar; 67 (3): 243–248
3. Gallager J.J. Description of the procedure for monitoring intra-abdominal pressure via an indwelling urinary catheter. *Crit Care Nurs* 2000 Mar; 20 (1): 87–91.
4. Matarasso A. Liposuction as an Adjunct to a Full Abdominoplasty//*Plast. Reconstr. Surg.* – 1995. – Vol. 95, № 5. – P. 829–836.
5. Yurasov A.V. et al. “Features of recurrence of postoperative ventral hernias in patients with obesity.” Proceedings of the 2nd All-Russian symposium. Zheleznovodsk, 23–24 May 2002.
6. Timerbulatov V.M. Popov O. S., Popova O.V., Sorokin V.O.//*Abdominoplasty in surgery for ventral hernia//Surgery. Journal of them. N.I. Pirogov*, 2006.

*Tolibov Dilshod Sirojovich,
Tashkent Medical Academy,
postgraduate student, assistant of Department of Neurology
E-mail: dr.dilshodts@mail.ru*

*Rakhimbayeva Gulnora Sattarovna,
Tashkent Medical Academy,
PhD, doctor of medical science, head of Department of Neurology
E-mail: rakhimbaevags@mail.ru*

New approaches to the diagnosis of dementia of Alzheimer’s type

Cognitive impairment (CI), especially dementia — one of the most common causes of disability in patients of all ages. In the structure of the CI dominated by Alzheimer’s disease (AD) and vascular dementia (VD). Alzheimer’s Disease (AD) refers to the primary degenerative dementia and characterized by progressive decline of cognitive functions, primarily memory, as well as the development of behavioral disorders. AD is the most common cause of dementia in the elderly and senile age. This issue is in the interests not only of neurologists and general practitioners, internists, psychiatrists, geriatricians. According to WHO¹, cerebrovascular disease

¹ Толибов Д. С., Рахимбаева Г. С. Вестник ТМА. – Т.: 2013.

and dementia takes third place among the causes of death of the world after heart disease and malignant neoplasms. Most publications and clinical studies relating to each of these clinical entities separately, but at the same time, there is growing evidence that in patients with AD and in patients with vascular dementia (VD) are detected and neurodegenerative and vascular changes¹. Clinically both neurodegeneration and cerebrovascular pathology potentiate each other and cause the development of more severe intellectual-mental disorders². Such coexistence of two disease entities usually determined as a mixed vascular neurodegenerative dementia.

The purpose of the research was examining the values of clinical and laboratory data, and establishing the relationship between them in the early diagnosis of Alzheimer's type dementia.

We study 40 patients (17 men and 23 women) under the age of 65 (average age $61,3 \pm 5,7$ years) years with dementia of Alzheimer's type (DAT), and 25 healthy individuals. The study was conducted in the department of neurology of the Tashkent Medical Academy for the 2013–2015. To assess the development of cognitive impairment Khachinsky scale was used. Following methods during neuropsychological examination for quantitative and qualitative assessment of the obtained results were used: Mini-Mental State Examination (MMSE), a battery of tests to assess frontal dysfunction (BTFD). In accordance with the criteria proposed Yahno N. N., CI were divided by the severity into light (LCI), moderate (MCI) and heavy (HCI)³. HCI diagnosed if: MMSE score was less than 10 and/or a score of less than 11 by BTFD. MCI diagnosed if the MMSE score of 11 to 20 by MMSE, and/or BTFD was 12 to 14 points. Criteria for LCI: MMSE 20–23 points, BTFD 15 points if there is error in the performance of other neuropsychological tests in the absence of complaints of cognitive function disorder or having the character of cognitive complaints in the absence of any abnormalities in neuropsychological testing. Laboratory tests were carried out using enzyme immunoassay determination of the level of DHEA-S before and after the oxidation catalyst with Fe²⁺.

Results of the study. Patients in the study had no significant differences in the parameters family history, nature and severity of premorbid personality characteristics, somatic and exogenous burdeness the time of entry into the study. Patients were randomized by age and gender distribution, education level⁴. There were no statistically significant differences in terms of pathogenetic therapy, received about

¹ Захаров В. В., Яхно Н. Н. Метод. пособие для врачей. – М.: 2005.

² Калын Я. Б., Брацун А. Л. Психиатрия и психофармакотерапия. – М.: 2001.

³ Гаврилова С. И., Левин О. С. Диагностика и лечение деменции в клинической практике - М.: 2010.

⁴ Tolibov D. S., Hadjaeva M. H. Analysis of clinical and neuroimaging parallels of Alzheimer's disease – Т.: 2012.

cognitive impairment. Clinic AD in the study group was characterized by the presence of neurological deficit and a progressive decline in cognitive function. In the study of patients 16,7% were diagnosed LCI, at 36,7% — MCI, 46,6% — HCI. Complaints on cognition actively imposes only 65,8% of patients. Absence of complaints of cognitive nature correlated with the severity of the CI ($r=0,279$; $p=0,002$), severity of disregulatory violations ($r=0,273$; $p=0,009$), apathy ($r=0,221$; $p=0,015$), impulsivity ($r=0,236$; $p=0,009$), abuse of alcohol intake history ($r=0,343$; $p<0,001$). Evaluation of cognitive neuropsychological disorders showed that the most frequent disorders were dissomnia (70,8%), emotional lability (63,3%), anxiety (65,0%), depression (58,3%) and apathy (44,2%). It was determined that the main group of patients suffering from Alzheimer's disease with early onset dementia mild degree had significantly worse performance ($p<0,05$) the overall functioning, they were more prominent violations in communications, orientation, ability to act independently in all areas. There were not statistically significant differences in the parameters of daily activity in the monitored groups. At the stage of moderate dementia significant differences in the parameters of the functioning of the groups are not revealed.

In hematological oxidation ELISA study of serum led to a sharp increase in DHEA levels in the control group (before oxidation of $5,2\pm 0,5$; after oxidation of $7,1\pm 0,5$), while the serum of patients with AD it was not observed or was not significant the increase of DHEA level (oxidation to $2,1\pm 0,5$; after oxidation of $2,3\pm 0,3$).

Discussion. This study has allowed establishing a high incidence of cognitive disorders in patients with dementia of the Alzheimer type. Neuropsychological analysis of patients with presenile dementia, Alzheimer's type showed that the syndrome of mild dementia was determined first of all by gradually increasing of dismnesitic intellectual disorders. Memory Disorders formed relatively slowly, more slowly than in AD, mnestic-intellectual disorders progressed. There was an early loss of the criticism to his condition with severe personality changes as the trans-restructuring nature, which was determined not characteristic traits of avarice previously treated patients, rigidity, self-centeredness, conflict and suspicion. The disease most often begins in the presenile age (65 years). The results of neuropsychological studies of patients with mild dementia of the Alzheimer's type (DAT) allowed to talk about what's syndrome disorders of higher neurological functions have determined a decrease in the control, programming and arbitrary regulation of activity. In addition, the observed defects in the spatial organization of neurological functions that are manifested in the sensitized conditions, organization and kinetic motion (dynamic praxis). Violation of memory consists of the following components: a narrowing of the scope of the direct memory increased the influence of interfering in the activities of reproduction, violations of election during playback. Almost all patients DAT at this stage of dementia observed relative safety of various components of the speech

function except the nominative function of speech (in naming latency was expressed more than in the group of healthy subjects). It was noted the preservation of visual and auditory gnosis. Patients in this group actively complained of memory loss. They were not always accurate in time orientation.

In the study of blood analysis, changes in the level of serum DHEA after oxidation correlated with cognitive and mental state of the patients. These results showed that the comparison of the serum levels of DHEA in the patient before and after the oxidation can be a useful tool for the diagnosis of AD.

Conclusions.

1. On the basis of the study patients, it was found that the formation of cognitive impairment due to biological factors, their severity depends on the severity of dementia. The mechanism of neurological symptoms, functioning disorders is heterogeneous, depending on the biological causes and social conditions of the functioning of patients.

2. Violations of the higher brain functions of speech, gnosis, praxis are the neuropsychological basis of dementia. Disorders of speech and gnosis contribute to the formation of painful ideas ($r = 0,891$), violation perception ($r = 0,798$), eating disorders ($r = 0,688$), affective disorders ($r = 0,566$).

3. With an increase in the severity of dementia takes a significant ($p < 0,05$) increase in the intensity and frequency of behavioral disorders aberrant behavior ($r = 0,850$), agitation/aggression ($r = 0,623$), conduct disorders of night and day activity ($r = 0,723$).

4. Determining the level of DHEA in the blood serum of patients, as well as reaction with an oxidizing Fe^{2+} may be adopted as one of biochemical markers in early diagnosis of AD forms, which may be recommended for the purpose of screening.

References:

1. Гаврилова С. И., Левин О. С. Диагностика и лечение деменции в клинической практике – М.: МЕДпресс-информ, 2010.
2. Захаров В. В., Яхно Н. Н. Когнитивные расстройства в пожилом и старческом возрасте – М.: Метод. пособие для врачей, 2005.
3. Калян Я. Б., Брацун А. Л. Деменции альцгеймеровского типа: эпидемиология и факторы риска – Психиатрия и психофармакотерапия, 2001.
4. Толибов Д. С., Рахимбаева Г. С. Распространённость и факторы риска развития деменций альцгеймеровского типа – Т.: Вестник ТМА. 2013.
5. Tolibov D. S., Hadjaeva M. H. Analysis of clinical and neuroimaging parallels of Alzheimer`s disease – Т.: Materials of science conference. 2012.

Contents

| | |
|---|-----------|
| Biological sciences | 3 |
| Section 1. General biology | 4 |
| <i>Mamasoliyev Sardorbek Tursinovich</i> Systematic analysis of algae, soil of towns of Fergana valley | 4 |
| <i>Rumyantsev Konstantin Alekseevich, Sherbakova Daria Mikhaylovna, Zakharova Natalia Ilinichna, Turoverov Konstantin Konstantinovich, Verkhusha Vladislav Vitalyevich</i> New molecular evolution pathway for developing of small single domain near-infrared fluorescent proteins based on bacterial phytochromes | 9 |
| Section 2. Physico-chemical biology | 11 |
| <i>Sulatskaya Anna Igorevna, Rodina Natalia Pavlovna, Polyakov Dmitry Stepanovich, Kuznetsova Irina Mikhailovna, Turoverov Konstantin Konstantinovich</i> Investigation of amyloid fibrils on the basis of full-length and truncated forms of beta-2-microglobulin with the use of equilibrium microdialysis | 11 |
| Medical sciences | 19 |
| Section 1. Clinical medicine | 20 |
| <i>Anvarova Shakarhon Saidoromovna, Pirmatova Makhina Abdurakhimovna, Adamkhanova Zulkhumor Abdurasulovna, Niyazova Nargis Fazlikhudoevna</i> The cases of osteoporosis in some different endokrinopaties in the Republic of Tajikistan | 20 |
| <i>Rzayev Tural Zulfi ogly</i> The application of measures of compulsory treatment to individuals experiencing a mental disorder after committing socially dangerous actions in the sane condition in Azerbaijan | 24 |
| <i>Teshaev Oktyabr, Ilhom Hayitov</i> Method of volume calculation of skin and fat tissue to be removed from anterior abdominal wall | 26 |
| <i>Tolibov Dilshod Sirojovich, Rakhimbayeva Gulnora Sattarovna</i> New approaches to the diagnosis of dementia of Alzheimer's type | 31 |
| <i>Usmanov Isomiddin Haydarovich, Tillyashaykhov Mirzagolib Nigmatovich, Nazirov Primkul Khudjamovich, Djuraev Bahtiyer Mamadaminovich, Baboev Abduvakhob Sahibnazarovich</i> New methods of taking autograft from ilium for anterior fusion in lumbar spine tuberculosis | 35 |

| | |
|---|-----------|
| <i>Usoltsev Ivan Vladimirovich, Leonova Svetlana Nikolaevna, Galeev Yuri Maratovich, Popov Mikhail Vasilyevich</i> | |
| MRI diagnostics of PASA at Hallux valgus | 43 |
| Section 2. Biomedical science | 53 |
| <i>Belovol Alexandr Nikolayevich, Bobronnikova Lesya Romanovna, Ilchenko Irina Anatolyevna, Shaposhnikova Yulyia Nikolaevna</i> | |
| Cardiohemodynamic and metabolic changes interaction during hypertension and diabetes mellitus comorbidity..... | 53 |
| <i>Dirsh Alla Victorovna, Valiev Hammat Hafizovith, Snegireva Natalya Sergeevna, Karnet Yulya Nikolaevna</i> | |
| New approaches to assessing the dynamics of penetration of drugs (Dermatology) in the human body | 58 |
| <i>Lishchynovska Tetiana Olexandrivna, Kogan Michail, Shysh Katerina Mykolaivna</i> | |
| Apoplexy of ovaries | 62 |
| <i>Shek Dmitrii Leonidovich, Akhuba Liya Georgievna</i> | |
| Theoretical aspects of modeling tumors of central nervous system on animals ... | 65 |
| <i>Shek Dmitrii Leonidovich</i> | |
| The dependence of concentration of matrix metalloproteinases 2, 7 and 9 from protein HER-2/neu in patients with breast cancer..... | 68 |
| Section 3. Pharmaceutical sciences | 71 |
| <i>Fursova Angela Zhanovna, Kedik Stanislav Anatol'yevich, Bondar' Valeriya Valer'yevna, Tyukova Viktoriya Sergeevna</i> | |
| Assessment of preventive activities with disulfiram eye drops for cataract..... | 71 |
| <i>Dukhina Larisa Leonidovna, Topchii Maria Vladimirovna, Churilova Tatiana Michailovna, Panova Natalia Victorovna</i> | |
| From the experience of the quality management system and gmp standard in the closed-type JSC Biocom | 75 |
| <i>Ivanova Eugenia Viktorovna, Luksha Elena Alexandrovna</i> | |
| Study of tannins of <i>Aconogonon divaricatum</i> inflorescences..... | 79 |