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Zhoršovanie kognitívnych funkcií ako jedna z kľúčových oblastí výskumu v dnešnej gerontológii

According to Morley (2004) the most important areas of gerontologic and geriatric research are as follows:

1. Deterioration of cognitive functions
2. Depression
3. Mobility
4. Nutrition
5. Modes of affecting the process of ageing by hormones
6. Vulnerability/sarcopenia
7. Cardiovascular diseases
8. Immunity and ageing
9. Life prolongation
10. Systems of providing geriatric care

Morley considers disorders of cognitive functions the most important because they pose a serious problem. 5 - 10 % of seniors are estimated to suffer from dementia and the incidence of dementia during old age increases from 0.4 at the age of 60 to 40 % at the age of over 90. Slowing down the onset of manifestations of dementia by 5 years would significantly reduce its prevalence and due to this reason, the research in this area is of great necessity. Alzheimer's disease is the commonest cause of dementia. The most significant histological manifestations of Alzheimer's disease include amyloid plaques and neurofibrillar tangles formed by hyperphosphorylated tau protein. There exist 2 main hypotheses for the onset of Alzheimer's disease. The **amyloid hypothesis** considers the process leading to the plaque formation as primary mechanism. **The process of onset of tangle formations** is the primary one according to the tau hypothesis. Amyloid hypothesis is supported by the fact that the states of A beta amyloid cumulation (e.g. Down syndrome) are connected with the onset of Alzheimer's dementia (gene for amyloid production is on 21st chromosome) (7).

In 2009 the detrimental effect of oli-

gomer form of A beta amyloid upon the brain activity that arises by binding to a specific receptor on neurons (6), was found. This receptor is the prion protein associated to Jacob Creutzfeld disease (3).

In the year 2009 the innovated amyloid theory stated that reactivation of neuron junction perforation occurs. The reactivation is normally observed in the phase of the accelerated brain growth resulting in the involution of neurons (6). Removal of amyloid by means of antibodies improved the cognitive functions of transgenic mice (9). However, in men the administration of antibodies led to encephalitis (1).

There exist opinions that betamyloid alone has a protective effect, whereas its oligomeric form is harmful. (4).

The research focuses on the drug preparation that would inhibit the enzyme secretase cleaving the amyloid precursor (2). The tau hypothesis believes that the whole pathophysiologic cascade is triggered by hyperphosphorylated tau protein (10). The tau theory is supported by the lack of the correlation among the decline of neurons and amounts of amyloid (5). Prof. Novák, the director of Neuroimmunological Institute of Slovak Academy of Sciences (8) also contributed to the recognition of the tau protein structure in Alzheimer dementia (8).

Epidemiological studies show mental activity decreases the risk of onset of dementia. This effect was also confirmed in experimental animals. Moreover, the favorable effect of an environment rich in impulses was observed in the histological examination of experimental animal brains (11).

The research of cognitive functions undoubtedly belongs among the priorities of scientific-research activities of clinical gerontology.

Literature

1. Akiyama, H. a spol: Inflammation and Alzheimer's diseases, *Neurobiol. Aging*, 2000, 21, 383-421
2. Banks, W.A , Morley J.E.: Memories Are Made of This: Recent Advances in Understanding Cognitive Impairments and Dementia, *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 2003, 58:M314-M321
3. Goedert M., Spillantini MG, Crowther RA "Tau proteins and neurofibrillary degeneration". *Brain Pathol* 1 (4): 279-86. doi:10.1111/j.1750-3639.1991.tb00671.x. PMID 1669718
4. Lee, H., Zhu, X, Nunomura,, A , Perry, G., Smith, M.A.: Amyloid-b Vaccination: Testing the Amyloid Hypothesis? Heads We Win, Tails You Lose!, *Am J Pathol*. 2006, 169, 3 738-739. doi: 10.2353/ajpath.2006.060633.
5. Morley, J.E.: The top 10 hot topics in aging, *The Journals of Gerontology SeriesA: Biological and Medical Sciences*, 2004, 59, M24-M33
6. Nikolaev, A., McLaughlin T., O'Leary, D., Tessier-Lavigne, M. : N-APP binds DR6 to cause axon pruning and neuron death via distinct caspases. *Nature*, 2009 457 (7232);981-989. doi: 10.1038/nature07767. ISSN 0028-0836. PMID 19225519.
7. Nistor M, Don M, Parekh M, et al. "Alpha and beta-secretase activity as a function of age

and beta-amyloid in Down syndrome and normal brain". *Neurobiol Aging*, 2007,28, 10, 1493-1506. doi:10. 1016/j. neurobiolaging. 2006. 06. 023. PMID 16904243.

8. Novak, M., Jakes, R., Edwards, P. C., Milstein, C. Wischik, C. M.: Difference between the Tau Protein of Alzheimer Paired Helical Filament Core and Normal Tau Revealed by Epitope Analysis of Monoclonal Antibodies 423 and 7.51, (*Proceedings of the National Academy of Sciences of the United States of America*, 1991, 88, 13, 5837-5841

9. Schenk, D.a spol.: Immunization with amyloid- attenuates Alzheimer-disease-like pathology in the PDAPP mouse, *Nature*, 1999, 400, 173-177 | doi:10.1038/22124

10. Schmitz C, Rutten B.P, Pielen A., et al.: Hippocampal neuron loss exceeds amyloid plaque load in a transgenic mouse model of Alzheimer's disease, *Am J Pathol*, 2004 164, 4, 1495-1502. PMID 15039236

11. Young, D., Lawlor, P.A., Leone, P., Dragunow, M., During, M.J.: Environmental enrichment inhibits spontaneous apoptosis, prevents seizures and is neuroprotective, *Nature Medicine* 1999, 5, 448 - 453 doi:10.1038/7449

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Current state of health care for seniors in SR

L. Hegyi, Š. Krajčík, M. Konečná

Summary

Demography. 12.09 % of the population of SR belong to the age group of over 65 years, with the average age of the inhabitants being 38.3 years. The mean life expectancy at birth had an increasing trend and in 2008 it reached 70.85 years for men and 78.73 for women. Demographic prognoses show a great reduction of the population in productive age (generating gross national product) which will result in the lack of financial means to cover health and social care as early as in the first half of the 21st century.

Health status. Health status of seniors is not good. Mortality and morbidity are led by cardiac and venous diseases followed by malignant tumours. 6 % of the population suffer from diabetes. Large numbers of patients at psychiatric outpatient departments indicate impaired mental health. In 2008 more than 10 000 of patients with the diagnosis of dementia were examined. In 2005 13 492 cases of malignant tumours in patients over 65 were reported.

Health network. Geriatric primary health care is delivered by general practitioners and 386.79 nurses in agencies of home nursing care. 30.67 geriatricians work in 59 geriatric outpatient departments. Hospital care in the field of geriatrics was provided by 947 geriatric beds, 322 gerontopsychiatric beds, 2146 beds of departments and facilities for long-term patients as well as by 636 beds of after-treatment facilities.

Inadequacies. Inadequacies in providing geriatric care are caused mostly by a low number of ambulatory geriatricians resulting in inadequate accessibility of this service. Personal and material facilities of geriatric facilities do not suffice. The problem of long-term care in geriatrics has not been settled by legislation. The society remains unprepared for demographic changes.

The analysis and corrective measures to eliminate the inadequacies were processed and submitted to the competent authorities.

Key words: *demographic development - health status of seniors - geriatric health network - inadequacies in providing health care to seniors*

Clustering of some cardiovascular risk factors in hospitalized seniors

M. Dúbrava, P. Kazimírová, J. Jánošiová

Summary

The present-day priority is not only the assessment of isolated risk factors (RF) of cardiovascular diseases, but also their cumulation that has a negative synergic impact upon the quality of life and life expectancy. There are scarce data on the risk factors of our seniors. The goal of the paper was to inform about a particular risk factors cluster (arterial hypertension, diabetes, obesity and hyperlipoproteinemia). In a retrospective study patients aged 65 and over, hospitalized during one year at the university geriatric clinic were analyzed. The group followed up included 1448 patients (women/men: 65/35 %), mean age 79.8 years (median 80 years, range 65-99 years). In average 1.5 of RF was found in one patient (SD 0.9; range 0 - 4 years). Two and more risk factors were found in 45.2 % of patients. Men had fewer RF than women (1.4 vs. 1.6; $p = 0.003$). Patients admitted in hospital from their homes did not differ in their average number of RF from the patients sent to hospitals from old people's homes or similar institutions (1.56 vs. 1.51). With an increasing age it is reasonable to suppose that the risk of cumulated risk factors contributed to the shortened life expectancy of these patients. From the aspect of "four-dimensional" morbidity there emerges an unfavourable situation in the population of our seniors which will be difficult to manage by both financial and human resources.

Key words: geriatrics - polymorbidity - hypertension - diabetes - obesity - hyperlipoproteinemia - cardiovascular risk

Old age in eyes of young generation

H. Zavázalová, K. Zikmundová, V. Zaremba, J. Kotrba

Summary

The purpose of this investigation was to know medical students' opinions on some problems of elderly. Anonymous questionnaire concerning the preparation of medical students for care for elderly, discrimination of old generation, elderly abuse and family care was used. Care elderly for has to be available, long-term and qualitative. Physicians have to be prepared for this care in pre-graduate study.

Key words: students - medicine - seniors

Home care

K. Repková

Summary

Demographic development is making the home care for disabled people to be one of the biggest challenges for the future. It is supposed to be provide in home setting by family members. Although OECD defines home care as care provided in home of cared person, it comprises also respite care provided in institution in the case of carer disease etc. Some experts consider care provided in shelter houses as home care too. This care is difficult to identify in statistics. The home care for older person can combine necessary health care with personal care provided by his (her) relative, who may be paid.

It is also possible to combine this care with care provided by relatives and day care. The last possibility is a combination of health care provision with care provided by family members and by professional carers. The new legislature in Slovakia is friendly to these trends, but financing, organisation a staffing remains still problematic.

Key words: *home care - personal care - geriatrics*

Some characteristics of general practitioner's care for seniors

7
Geriatrics
3/2009

I. Bartošovič

Summary

General ambulatory care for seniors is provided by a general practitioner (GP). He is referred to as "primary care geriatrician" as he cares for as many as 80 % of old people. Longitudinal care is one of the greatest privileges of GPs. The GP's activities in the diagnostics of seniors' diseases are affected by specificities of diseases in old age. Visiting seniors in their homes is a specific element in the GP's work. Pharmacotherapy is an important part of health care. Cooperation with other components of formal and informal primary care is also of high significance. GP has an irreplaceable role in health education. GP may very often find himself in a complicated situation in which he has to cope with both health and social status of a senior patient. The communication with a senior's family is of major significance. Palliative care is a serious problem in GP's practice. With the ageing process of the population GPs will be faced with a higher degree of theoretical knowledge and practical skills in the area of geriatrics and in continuous participation in educational activities concerning caring for seniors.

Key words: seniors - general practitioner - outpatient department - pharmacotherapy - care for seniors - prevention-screening and follow up

Current development of rehabilitation medicine as related to the ageing of the population and increasing number of chronic diseases

M. Palát, M. Ištoňová

Summary

The most frequent chronic diseases, such as cardiovascular, respiratory, oncological diseases, diabetes mellitus and obesity have been long known as leading causes of mortality with negative impact upon the mean life expectancy. The treatment of these diseases is costly and the quality of life is impaired.

The paper focuses on the significance of rehabilitation in the complex health care in the accelerated process of ageing and in ever-increasing number of chronic diseases. The possibilities of long-term therapeutic - rehabilitation intervention in chronic diseases are discussed. A special attention is devoted to the two-dimensional model of therapeutic approach: dimension of pharmacotherapy and dimension of rehabilitation. The introduction of the principle of comprehensiveness in two-dimensional model in rehabilitation offers other possibilities how to optimize the rehabilitation process of these diseases.

Key words: geriatrics - rehabilitation - comprehensiveness