The status of geriatric ambulatory in XXI century

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ABSTRACT

Strehler has identified four criteria to define the aging process and to distinguish it from chronic pathology. The aging is: Universal-change occurring in all members of the species, but can affect individuals in different degree; Intrinsic-aging is a process that occurs even when all the environmental influences are eliminated; Progressive-emergence process is gradual and the changes are cumulative, not to confuse it with conditions such as cancer, which has a greater impact, especially at a certain age, but develops rapidly and sporadically; Damaged- a phenomenon of aging should possibly be harmful to the body. Consultation should be multidisciplinary in perspective: biomedical, psychological, sociological, environmental, ethical, emotional. In 2009, the ambulatory St. Spiridon Iasi were 91,724 for the elderly, ie 27% of the patients. The American Geriatric Society believes that to be of high quality ambulatory care services for older adults should include seven critical components: primary and secondary, staff training and experience in geriatrics, an interdisciplinary team in their coordinate care and services, access to care, prompt response to the special needs of elders, a system of information and quality improvement, which is the geriatric-focused, financial viability and to ensure continuity of care. Health education for elderly aims: Knowledge of disease risk; Ownership arrangements prevention of age-specific diseases; Recognizing signs of disease; The correct medication and diet recommendations; Maintaining physical and intellectual capacity. It is necessary to adapt to the discussion: Patient age; The degree of understanding: healthy elderly vs elderly patients. Physicians of any specialty (family doctors in the first place) – and must accept responsibility towards the third age.

Key words: aging processing, bioethical approach, family medicine.

WHAT IS GERIATRICS?

Strehler has identified four criteria to define the aging process and to distinguish it from chronic pathology. The aging is:

- Universal – change occurring in all members of the species, but can affect individuals in different degree;
- Intrinsic – aging is a process that occurs even when all the environmental influences are eliminated;
- Progressive – emergence process is gradual and the changes are cumulative, not to confuse it with conditions such as can-

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cer, which has a greater impact, especially at a certain age, but develops rapidly and sporadically;
- Damaged – a phenomenon of aging should possibly be harmful to the body.

Many changes due to the age are a simple progression of the changes that have been useful during the growth and development, changes with the purpose to shorten life.

WHY DO WE GET OLD?

There are three views:
- Aging is the inevitable price that the body pays it for his complexity. Over time, „wear and repair" is manifested in functions decline and possibly, death.
- Adaptive evolutionist vision – the aging is selectively advantageous for species. It is a programmed event that prevents congestion and competition for resources.
- Non adaptive evolutionist vision – the aging occurs because of the natural selection strength that decreases with the age or because of the genes that are useful in the first part of the life and later prove to be harmful.

THE AGING OF THE BODY

Aging process is manifested in the numerous programs. Central nervous system (particularly brain), the immune, endocrine and cardiovascular system are most affected by aging process.

The aging of the brain. Brain damage due only to the aging process (by contrast to the aging disease) is minimal. Although the aging brain may lost 100,000 neurons per year, it seems to compensate for these losses. This compensation could be positive influenced by challenge intellect (through mental exercises). The brain is the one that gives the ability to have a control over aging. It is the only organ that theoretically can not be replaced – because there are organs that can not be technically replaced – our brain is us, it is „the EGO". We can replace the heart, kidneys or other organs – within the limits of the technology – but we can't replace the brain or we won't be us for a longer time. Our priority should be the avoidance of the aging brain; the aging avoidance in the rest of the body is secondary unless, of course, it is necessary the action to preserve the brain. (1)

The loss of the short term memory, cognitive and personality changes emerging with aging, dementia, sensors and nervous system decline and other changes seem to occur in aging (Hayflick, 1994). The main cause of these changes seems to be the loss of the neurons.

PSYCHOLOGY OF OLD AGE

This can be divided into three areas: cognitive changes, character and temperament (personality) and adaptation.

Cognitive changes – there is a decrease of the ability to acquire a new intelligence, but there is a sustained ability to use existing knowledge (wisdom maintenance, with some decline). The aging has a weak effect on the size of the active memory, but the information transfer should be improved in short-term storage to long-term storage. Therefore, new information should be presented more rarely, slow and be repeated. The loss of the existing knowledge (eg how to dress) is a pathological change and not one related to aging.

Changes of character and temperament – the elderly demonstrate personality changes, most typically a decrease in neuroticism and an increase in introversion.

Changes of the adaptation – the elderly must reach out for terms to which they are and to change their role in life. Individuals respond in different ways. Most elderly change their social role that even the community retires it. There is a loss of the social conformity and a desire decrease for social respect (deactivation theory). The community induces the elderly to assume a role of dependence by withdrawal and retirement. Many of them are quite happy with these changes and accept them, others try to deny that changes occurred and perhaps they would become depressive due to them. And yet many of them use their spare time they have to undertake various activities to feel fulfilled (structured dependence). (2)

NUTRITION

Older people are inclined towards the depression, which affects nutrition. The causes may be:

Biological: aging (presbyesophagus, denture loss), pathology (the diseases that affect mobility, vision, deglutition: stroke, manual dexterity, cognition), oral infections;

Psychological: depression, mourning, fear of falling that leads to fear of travel, dementia;

Social: decreased access to food choice (example meal on wheels), decrease the possibility of driving (dependence on others to go shop-

ping), poverty, low social contact during dinner. (3)

AGING CHRONOBIOLOGY

What is the chronobiology? It is the science of the biological rhythms – daily, monthly, season – in all living organisms (from bacteria to humans) at all levels of organization (from genes to behavior).

WHAT OLDER PEOPLE NEED TO KNOW ABOUT THEIR SLEEP?

Increases time spent in bed, raises the number of awakenings, decreases sleep time during the night, increases sleepy time, unrestful sleep, more fatigue during the day, more frequent asleep episodes during the day. Factors that are affecting the sleep in the elderly: circadian rhythm disturbance, disorders of the primary sleep, disease, medication, dementia. (4)

What means the third age: the scientific arguments of twentieth century

Aging can be:

- Physiological (chronological age = biological age)
- Premature (chronological age <biological age)
- Accelerated (accelerated aging rhythm after a negative event)
- Pathological (illness)

Psycho-social factors (stress) affects somatic status of the individual.

Modern society generates old age, but tends to reject and to isolate it – major stress factor.

Defining health in the elderly is difficult:

- Physically – regressing;
- Mentally – regressing;
- Social – social deactivation, marginalization.

Third age pathology: aging or disease?

However it is necessary the differentiation between the pathologic and normal, the delineation of the disease state to initiate therapy.

Scientific arguments for the third age

Life of a cell is dominated by the nucleus genetic content. Aging is done in cell nucleus, to the level of the chromosomes.

- 2003 – it was finished the decipher of the human genetic code – the genetic map (Human Genome Project – 100,000 genes, 3 mild. nucleotide bases that make up the DNA double helicoidal).
- 2003 – Prof. A. Rottenberg – identified NR2B gene that controls brain function youth.
- 1961 – L. Hayflicke has shown that the human somatic cell can divide by 100 times and then dies and he founded scientific gerontology. External factors influence the rate of cell aging.
- 1980 2000 – during each cell divisions the chromosome decreases their length (there are loosing telomeres, genetic material) – TELOTOMY. As the chromosome is smaller, the cell can no longer divide and dies. Telomerases can be the weapons used in aging preventing and anticancer fight.
- 1984 – sexual and germination cells as the cancer cells don't lose telomeres, they contain telomerase (Carol Greider, Elizabeth Blackburn).
- 1972 – Kerr, apoptosis is an active process that acts internally without the intervention of an external (programmed cell death). It affects the cells that have reached certain age or are structurally and/or functional altered.
- 1995 – Ruff and Steller define apoptosis as a programmed suicide of the cells that receive signals from neighboring cells or from the body.

The aging is genetically programmed from birth. It starts from the cells and held at different speeds.

The risk factors of duration and quality of life depend on:

1. Individual,
2. Geographical area,
3. Race,
4. Sex,
5. Class,
6. Occupation,
7. Health,
8. Mental state,
9. Consequences of negative events,
10. Industrial progress.

Definition, epidemiology

It is a branch of medicine that investigates pathological aspects of aging.

It is a frontier, integrative, synthetic discipline.

Classification by age:

- 65 (60 years) 75 years - elderly (the transition to old age),
- 75 85 years – old (the old age average),
- Over 85 (90) years – longevity (great old age).

To know that the specific aging changes start of the adult, 40-45 years (middle age) and 50-60 years period (preaging).

In Romania, the prevalence in the population of the third age is approx. 17%. WHO considers that the population aging is the fifth important problem (after cardiovascular diseases, cancer, AIDS, alcoholism). 50% of older persons need medical care: 42% patients, poly-pathology (4-5 disease).

The physical, psychological and social, economic and family decline.

Therapeutic approach of the geriatric patient – THEMES:

Medical responsibilities – social responsibilities.

Structures of the geriatric ambulatory in the XXI century

The consultation should be from the multidisciplinary perspective: biomedical, psychological, sociological, environmental, ethical, emotional.

In 2009, in the ambulatory St. Spiridon Iassy were consulted 91,724 of elderly, ie 27% of the patients.

The American Geriatric Society considers that for be of high quality, the ambulatory care services for older adults must contain seven critical components: primary, as well secondary care, staff training and experience in geriatrics, an interdisciplinary team that must be able to coordinate their care and services, the access to care, the prompt response to the special needs of elders, an information and quality improvement system, which is the geriatric-focused program, financial viability and the insurance of care continuity.

The Geriatrics Ambulatory. Structures:

- Geriatrics Clinic, affiliated to the hospital;
- Geriatric day hospital, affiliated to the hospital.
- Centers for outpatient practice specializing in geriatric, with a specialist in geriatrics and other specialties.
- Centers for geriatric practice of Family Medicine, area assigned.

The prevention of the third age pathology

Primary prevention = prevention of risk factors.

Secondary prevention = treatment of risk factors and diseases.

Tertiary prevention = treatment of the pathology that requires long hospitalization, monitoring and recovery.

Secondary prevention

- Obesity
- Arterial hypertension
- Glycoregulation disorders,
- Lipid metabolism disorders
- Arteritis
- Cerebral atherosclerosis
- Transitory ischemic accident
- SPC
- Reflux esophagitis
- Digestive ischemia
- Elderly anemia, leukemia
- Urinary infections
- Dehydration (urinary incontinence, low immunity, central disorders, psycho-social disorders, renal functional disorders and hormonal changes).

Treatment

- Gentle, gradual, carefully to the side-effects;
- Attention to the perfusion deficit of the brain and heart tissue;
- Associations of medicines in small doses;
- Control of renal and liver function and adaptation to the concerned status.

Measures to improve quality of life of older people:

Supporting the endocrine, immune and neuro-psychiatric system:

- Testosterone – antioxidant effects, increases the physical, cognitive and immune capacity;
- DIHYDROEPIANDROSTERON (DHEA) – suprarenal gland;
- Growth-hormone – hypophysis – the effect on obesity and osteoporosis;
- Erythropoietin – MR – increases the tissues oxygenation;
- Vitamins of B Complex – anti-homocysteine;

- Vitamin E – antioxidant;
- Q10-Coenzyme influences the energy metabolism;
- Gerovital – trophic and regenerative action;
- Humanofort (embryotherapy)–reinvigorates by biostimulating

Diet, Nutrition, Lifestyle

Quantity and quality balanced diet depends on:

- lifestyle,
- physical condition,
- degree of civilization.

China, Japan – the vegetarian diet > 70 years;

USA, Western Europe – hyperlipidemic diet < 70 years + degenerative diseases;

Poor countries – the inadequate protein and calories diet.

The risk of obesity – contributed > consumer:

Benefits: – consumption of fish, chicken, seafood – Q10 coenzymes; Milk – calcium; Fruits, vegetables – minerals, vitamins; 1-2 glasses of red wine, green tea – antioxidant

Psychiatric factors

The combat of the loneliness – depression;

The occupation, utility – in the social context (home, clubs);

The adequate sport (golf, walking, swimming);

Immunostimulating

- physical effort;
- Polidin, Cantastim, Imunostim

Health education in geriatrics

Geragogia = the training of the elderly – a new school which aims to acquire the necessary knowledge for:

- The aging process;
- Preparing for retirement;
- Health education of the elderly;
- Cultural and professional recycling.

The aims of the health education for elderly:

- Knowledge of the disease risk;
- Appropriation of the prevention methods of the specific age diseases;
- Recognizing signs of disease;
- The correct application of the medication and the recommended diet;
- Maintaining physical and intellectual capacity.

It is necessary to adapt the discussion to:

- Patient age;
- The degree of understanding: healthy elderly vs sick elderly patients.

CONCLUSIONS

1. Bioethics issues of the geriatric consultation in the ambulatory care concerns complex medical and psycho-social aspects:
- training of individuals and their families for withdrawal from the activity;
- combat addiction;
- maintaining of the social and economic integrity;
- education of the dependent elderly entourage;
- general young public education which must accept that older people have their place in the society.
2. Prevention of the third age pathology;
3. Physicians of any specialty (family doctors in the first place) – must accept their responsibility towards the third age.

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REVISTA PRESEI MEDICALE INTERNAȚIONALE

Common diabetes drug linked to vitamin deficiency

Dutch scientists who carried out the study said the findings suggest that regular checking of vitamin B-12 levels during long-term metformin treatment should be "strongly considered" to try to prevent deficiency and its effects.

Vitamin B12 is essential to maintain healthy nerve cells and red blood cells. It is found in meat, dairy products, eggs, fish, shellfish and fortified breakfast cereals, and it also can be taken as a supplement.

Coen Stehouwer of Maastricht University Medical Center in the Netherlands, whose study was published in the British Medical Journal, said symptoms of B12 deficiency include fatigue, mental changes, anemia and nerve damage known as neuropathy.

All these symptoms can easily be misdiagnosed as being due to diabetes and its complications, or to aging, he said, but checking B12 levels could help doctors to assess the real cause and treat it if it was found to be B12 deficiency.

"Our data provide a strong case for routine assessment of vitamin B12 levels during long term treatment with metformin," Stehouwer wrote.

An estimated 246 million people around the world have diabetes and rates are expected to rise along with the number of people who are overweight or obese. Most sufferers have type 2 diabetes, the kind linked with poor diet and lack of exercise.

Stehouwer's team studied 390 patients with type 2 diabetes, giving metformin to 196 of them three times a day for more than four years, and a placebo, or dummy pill, to the other 194.

They found that people who had taken the metformin had a 19 percent reduction in their vitamin B12 levels compared with people who had taken a placebo, who had almost no B12 change.

The reduced levels of vitamin B12 in the metformin group also persisted and became more apparent over time, they said.

"Our study shows that it is reasonable to assume harm will eventually occur in some patients with metformin-induced low vitamin B12 levels," Stehouwer wrote.

In a comment on the study, Josep Vidal-Alaball, a specialist in primary care and public health at Heath Park in Cardiff, Wales, said assessments should be carried out to see if giving patients advice on B12 in their diets would solve the problem.

"If it does not, a trial of screening for vitamin B-12 deficiency in patients taking metformin would be needed," he wrote.

Sursa: Reuters