

Węgrzyn Magdalena, Kubiak Karolina, Olesinkiewicz Kinga, Lamtych Martyna, Bednarek Hanna, Kwiatkowska Klaudia, Dorobiala Jakub, Włoch Agata, Sochań Agata. Dementia as a disease of old age. *Journal of Education, Health and Sport*. 2019;9(9):253-262. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.3402021>
<http://ojs.ukw.edu.pl/index.php/johs/article/view/7393>

The journal has had 5 points in Ministry of Science and Higher Education parametric evaluation. § 8. 2) and § 12. 1. 2) 22.02.2019.

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 25.08.2019. Revised: 30.08.2019. Accepted: 07.09.2019.

DEMENTIA AS A DISEASE OF OLD AGE

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Abstract

Background: The increase in chances of dementia with age translates into huge numbers of patients. Her diagnosis is often difficult to indicate and treatment is still about fighting the symptoms and not the disease itself.

Material and methods: A review of the literature and WHO research was carried out indicating the greater progression of the disease in old age and the stages of the course of the disease.

Results and conclusions: The disease progresses gradually and it is very difficult to make a correct diagnosis in the early stadium. There are various ways to diagnose dementia, but doctors still have a major role to do in close contact with the patient. Rapid diagnosis can significantly slow down the disease, but it cannot be cured completely.

Key words: dementia, symptoms, older people

Introduction

Today's society tends to age, it is associated with a longer life span. Therefore, there are more and more elderly people year by year. This in turn is associated with an increased incidence of old-age diseases, including senile dementia. Dementia is

manifested by a cognitive disorder that may be accompanied by emotional-personality disorders. The characteristic feature of dementia is its progressive character [1,2].

It is estimated that approximately 40,000 people suffer from dementia in Poland. Every year, around 7.7 million new cases of dementia appear in the world. Morbidity increases with age. According to epidemiological data, dementia affects up to 25% of people over 85 years of age [3]. This disease significantly impedes independent functioning, there are problems with orientation in space, problems with memory and also with understanding. Over time, you may need help from other people. In extreme cases, the patient may require 24-hour care at special facilities and nursing homes [3,4]. Dementia may be associated with other diseases. Dementia may also be associated with long-term exposure to severe stress, depression or alcohol abuse. The disease is incurable, the treatment is based on symptomatic treatment. The pharmacological and non-pharmacological methods should be combined in the treatment process. A comprehensive and individual approach to the patient is essential [3].

Definition of dementia and symptoms

Dementia, according to international classification of psychiatric disorders and behavior, is a set of symptoms caused by a chronic and progressive brain disease. Dementia affects primarily the elderly, dementia of various etiology occurs in 8-10% of people over age 65, but in people over 80-85 the year of life increases to 50% [5].

Senile dementia may appear as a result of degenerative changes of the Alzheimer's type - it occurs in 60-70% of cases. Another type is vascular dementia, the so-called multi-infarct dementia, which accounts for about 10-20% of cases. There are also known dementias due to other causes, including dementia with Lewy bodies, frontotemporal diseases, and Parkinson's disease. The least common is dementia of the mixed type (especially Alzheimer's and vascular type) [6,7].

The initial symptoms of dementia can be difficult to observe. Its symptoms intensify slowly, and the duration of the disease varies, although it usually lasts for years. The first symptoms are characterized by forgetting about the basic things related to everyday activities or duties related to work. Disorders of precise and purposeful movements may appear. Dementia leads to disorders of many cognitive functions. People suffering from dementia have a problem with the proper assessment of the situation and reality, they have difficulties with time-space orientation, understanding and visuo-spatial analysis. Therefore, in the later period of the disease, there is a loss of independence. Dementia causes psychopathological symptoms, which include agitation or apathy. In patients, you can also observe delusions, aggressive behavior, emotional instability, irritability, lack of confidence, agitation [8,9,10].

Stages of development of senile dementia and patomechanism

Senior dementia is a disease that develops gradually.

In the first stage of the development of dementia, the patient and people close to him may not notice adverse changes. Close relatives also have a problem with noticing symptoms or changes due to illness. Symptoms of dementia at this stage of the disease are often explained by the fatigue, lack of sleep or even age. The sick person speaks in a correct and understandable way. However, it may be troublesome for patients to remember the current events. A patient suffering from this condition can also forget about routines, regular duties for instance paying the bills. A sick person can buy the same item several times or still look for something.

In the second stage of the disease, memory disorders destroy other cognitive processes. [11]. In addition to memory disorders, a certain group of people may experience linguistic difficulties. A patient with dementia has a problem with expressing his thoughts, often using the term "I have it on a tip of my tongue". Initially, articulation fluidity and meaning of expression are preserved. However, over time, the utterances become culpred. Significant changes may be noticed in the stock of words and naming the known objects may become problematic for the patient over time [12].

The patient's long statement of Chaos Reigns, and he forgets the main thought of his expression, which makes him a different topic, and so usually does not bring history to the end. Other patients may be dominated by difficulties in perceptual and spatial orientation.

Spatial disturbances can manifest themselves in the form of dressing difficulties – the patient may, for example, Put your legs in the sleeves. The use of cutlery also becomes problematic for him. In addition, there is a change in circadian rhythm and increased activity at night. The sick can go out of the house and for hours to wander around the city in search, eg. Place of residence. Even if you move past the house or the block or the input cage repeatedly, you may have trouble recognizing the location. [12,13]

The second stage lasts for years. The patient must be provided with adequate care, especially at night. The patient is still a little bit, but as the disease progresses, it makes it ever more difficult.

In the middle stage of the disease both and in the first occur memory impairment, and the thought process itself is selective. The most severe for the sick and for the loved ones becomes the inability to recognise the face as well as loved ones and memorising events.

Unfortunately there is no way to help patients register and remember information, facts or requests. It is also impossible to recall distant memories [14].

At the last stage of the disease, the sick requires already round-the-clock care and care, which consists in feeding, washing or scrolling due to the lack of self-reliance on the toilet.

In the third stage of the disease, the patient not only does not recall what he learned in his life, but over time he can't remind the names of his close people. What causes the wife, daughter, mother to become one person just like a husband, son and father. The patient only realizes that this is someone close, important, feeling safe, but unfortunately loses

knowledge about who this person is. Finally, the patient is no longer able to indicate the time of day, year, hour, month or day of the week [15,16].

At this stage, there is already almost complete breakdown of the process of speaking, speech comprehension and thinking disorder. There is also a complete loss of mastered skills that have only been a problem in the earlier stages of the disease. The speech here about fast dressing, handling of cutlery, moving, hand sitting on a chair, maintaining as a vertical posture or preparing more or less complex meals [17].

The patient does not perceive their own disorders, inappropriate behaviors to the situation become everyday as well as the departure for a walk at night when the other household is asleep. Sick walks in the underwear itself during the winter season, begins to eat with his hands and falls to his head. At the last stage of the disease, the patient does not remember his name, forgets his needs [18,19]

This final stage is the final part of the advanced disease process and, unfortunately, inevitably ends with the death of a sick

The reasons for the emergence of dementia are many. Alzheimer is the most common cause of dementia, which leads to Alzheimer's type disorders. It is also important to distinguish the dementia with Lewy bodies-the frontal-temporal, resulting from vascular diseases of the brain.

The development of dementia can also be dependent on other medical conditions, m.in. Infections of the brain, multiple sclerosis, ALCOSM or Huntington chorea. Senior dementia is also caused by Parkinson's disease or Picka (when changes relate to the frontal-temporal lobe). It can also be a result of: trauma, infection or brain tumor, the effect of alcohol abuse, prolonged stress or depression and diabetes. Central nervous system (CNS) Genetic diseases are also considered as the cause of dementia. However, more and more often we hear the notion of "digital dementia" and "electronic dementia". It is believed that it is a consequence of the development of the surrounding technology, which greatly delazes our brain.[10]

Epidemiology - occurrence

Dementia is a quite common problem. Currently, the WHO reports that approximately 50 million people suffer from senile dementia and it is expected that due to the rapid population aging and population growth in the world, by 2030 this number may increase to even 80 million. At present, about 60% of people are living in developing countries. The disproportion in the number of ill people in developed and developing countries will increase. Dementia is also 5th most common cause of death. [21,22]

However, according to observations conducted in 1982-1999, a decrease in the prevalence of dementia in people aged ≥ 65 years was observed in the US population: from 5.7% to 2.9%. [23]

In Europe, population surveys conducted in Sweden covered by people aged ≥ 75 years showed a slight increase in the proportion of people with dementia: from 17.5% in 1987-1989 to 17.9% in 2001-2004. The authors of the study, taking into account data from a later period, argue that the incidence of dementia has probably decreased.

A prospective study conducted in the Netherlands (Rotterdam Study) with a population ≥ 55 years of age has seen a decline in incidence from 6.5 / 1000 in 1999 to 4.92 / 1000 in 2000.

Analysis of the results of two studies, Cognitive Function and Aging Study: CFAS I (1989-1994) and CFAS II (2008-2011), conducted in England on a population of over 7,500 people ≥ 65 years of age, also showed a reduction in the incidence of dementia from 8.3 % (CFAS I study) to 6.5% (CFAS II study).

Probably this increase in education level, better medical care, control of vascular risk factors, lower incidence of stroke, pro-health lifestyle and preventive actions at the population level contribute to a decrease in the prevalence of dementia. [24]

Diagnostics

The primary diagnosis for dementia is primarily the family doctors. During the patient's visit, they should pay attention to the possibility of occurrence of the disease and referral for appropriate tests [25]. What draws attention to the fact that the first contact doctors in the clinics had adequate training and were sensitive to the basic signs of the disease. In many works, it was pointed out that the problem of not diagnosing dementia is very common and concerns countries around the world [26]. According to studies carried out so far, family doctors diagnose dementia in about 50% of people who are actually affected [27].

In the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) classification of the American Psychiatric Association, it is specified that in order to diagnose dementia, apart from memory disorders which should first concern the family, there should also be deficits of minimum two other cognitive domains, such as the ability to identify items, speech, ability to plan initiations, control of complex behaviors, and complex physical activity. It is said that these disorders affect the normal and proper functioning of the patient in society [28].

The use of cognitive tests that detect disorders of many cognitive functions caused by dementia help in the early detection of dementia. At present, the Mini-Mental State Examination (MMSE) is a well-known tool in screening Alzheimer's diagnostics [29]. It allows you to evaluate multiple domains that may not function well in the course of dementia. We include: orientations in time and place, counting, memorizing, language functions, repetition of information, and visual-spatial abilities [30]. Dementia is a very complex condition and usually manifests itself with dysfunctions of many cognitive functions of various intensity. These disorders are often very subtle, almost unnoticeable, which makes it difficult to create an ideal diagnostic tool that would be able to detect the early symptoms of the disease one hundred percent. The main problem is to note all changes in patients' behavior and their problems in everyday functioning. There are very

comprehensive and sensitive screening tests in the world, such as the Montreal Cognitive Assessment (MOCA), the Abbreviated Mental Test Score (AMTS) and the Modified Mini-Mental State Examination (3MS), which can help in the diagnosis of dementia. Unfortunately, they are still not very popular in primary care facilities [31].

Therapeutic possibilities and the treatment

So far, medicine don't have an answer how to successfully treat patients for dementia. The causal treatment of various types of dementia is impossible. Pharmacotherapy only temporarily stops or slows down the relief of symptoms. The treatment usually utilizes the procognitive drugs which increase the level of chemical neurotransmitters (mainly acetylcholine) in brain. Acetylcholine regulates normal functioning of brain cells. It helps to improve memory, cognitive functions and reduce the incidence of hallucinations and agitation. The antagonists of acetylcholinesterase (e.g. Donepezil, Rivastigmine, Galatamine) inhibit the decomposition of acetylcholine by enzyme. In treatment of Alzheimer's disease (AD), the Memantine-antagonist of NMDA (N-methyl-D-aspartic) receptors are widely utilized. [32]

When patient notices a sign of depression, the antipsychotic drugs, so-called neuroleptics are introduced. Neuroleptics reduce the generative symptoms (such as delusions and hallucinations) and aggression. However, it is important to avoid an antipsychotic drugs in treatment of Parkinson's disease (PD) because these drugs intensify the symptoms of this disorder. [33] It is also worth to mention that combining of specialized medicines for dementia with group B vitamins, mainly B₁₂ greatly improve the relief of Parkinson's symptoms. [34]

Pharmacological therapy is supported by non-pharmacological treatment, which is equally important. The role of latter type of medical care is focused on keeping of the patient active, functional and unaided as long as possible. In dementia the most successful results give occupational therapy. The essence of occupational therapy is a selection of specific activities and work adapted to the patient's skills, which will not be stressful to patients. Was shown that music-therapy and art-therapy heve beneficial effects on people with dementia. Among many kinds of an occupational therapy we are able to specify: the ergotherapy, the choreotherapy (dance therapy) and sociotherapy, therapy by singing (individually or in groups) or relaxation techniques using sounds. The studies also proved the positive impact of music on heart rate and blood pressure. Monitoring of those parameters is extremely important for elderly patient's health because their abnormalities can lead to stroke or heart attack. [33]

Recalling of well-known songs from the old days, allows those suffering from a temporary "return" to the past. Remembering the moments and times of the youth of life stimulates the still functioning areas of the brain - musical reminiscence. In dementia, long-term memory is well-preserved for a long time, so patients gladly talk about their youth, professional work and remember song lyrics. However, the disease progresses, the patient loses his identity in the final stage. For this reason, the therapy is based on "what's left" due to the functionality of the remaining areas can be active as long as possible. [35]

Communication skills of therapists are very important for proper contact with seniors with memory disorders. In this case of so called “gerontological validation”, communication works in a special way. This is a specialistic concept and therapeutic method developed by Neomi Feil to work and communicate with elderly people who suffer for dementia.

According to Feil, communication should be oriented to the world of patient's experience. Knowledge of the principles of this method facilitates the achievement of fruitful collaboration with seniors. Moreover, it helps to avoid an unnecessary tension or aggression caused in the patient due to misunderstanding. [36]

Discussion

Due to the phenomenon of the aging society in developed categories in particular, the occurrence of dementia diseases increases from year to year. Dementia patients are a serious challenge to doctors, but also to caregivers and the family. Disorders of cognitive functions hinder everyday activities and functioning in society. We are not surprised that because of this type of symptoms, dementia has become one of the most common causes of death among elderly people.

In this article possible pathomechanisms of dementia, and thus its causes, which are worth focusing on in perspective of the available prevention. Alzheimer's disease is the most common cause of dementia. It seems that maintaining a healthy lifestyle corresponding to a balanced diet, a right amount of physical activities, avoiding alcohol abuse and stress, can contribute to lower the risk of falling ill. An interesting hypothesis is related to the excessive use of electronic equipment that badly affects our nervous system. This issue requires long-term observational studies, because the new technology has only been with us for a short time.

The role of a general practitioner is very significant in the diagnostic process of dementia. The family and people close to the sick person take part in the diagnosis as well, because they are the first to notice memory problems and behavior changes of a patient developing dementia. That is why social education about senile diseases and raising awareness about them are so important. In the end, the problem can affect anyone, not necessarily in person, but it can be a person from our family. Caregivers in various types of health centres or care homes should be particularly well-educated to be able to recognize symptoms efficiently and early. Also doctors must be trained when and how to use diagnostic and screening tests. This is especially important in view of the fact that many older people come to the general practitioner with another problem.

The other issue is whether early detection of symptoms and early diagnosis can result in delay or stop of the development of senile dementia. The treatment and its selection is another problem. We use drugs that affect the concentration of neurotransmitters, specifically acetylcholine, in synaptic spaces, which aims to improve the transmission of nerve signals. This treatment method is an extraordinary achievement,

but the discovery took much time. Drug treatment helps with various effects, and is certainly burdened with a great number of side effects and contraindications. Non-pharmacological therapies should also be taken into account, as they can be equally important and their variety is very surprising. Different types of methods have different efficiencies so that everything requires careful observational studies. And then a review study comparing all possible therapies.

Senile dementia is an insidious disease that makes life difficult for patients, causes a lot of family difficulties and is a great challenge for doctors taking care of the patient. It is a disease which is very common and most doctors will come across it. A large part of the society will fall ill with it, for which you can check the statistics. That is why education, further research on pathomechanisms and methods of treatment are essential. And most importantly, we must provide proper care for people suffering from dementia so that they do not pose a threat to their lives and health.

Conclusions

Dementia is an increasingly common disorder among geriatric patients. According to studies, there are 50 million people in the world and this number is still changing. The disease develops gradually, and the initial symptoms are not characteristic, which makes it difficult to make a definitive diagnosis.

Different scales and test are used for dementia diagnostics: Mini-Mental State Examination (MMSE), with which the cognitive function of the patient can be assessed. Also used are: Montreal Cognitive Assessment (MOCA), Abbreviated Mental Test Score (AMTS) and Modified Mini-Mental State Examination (3MS). In the diagnosis process, family doctors play an important role, who are often the first to have contact with patients with symptoms of dementia.

Despite the development of medicine, there is still no single agent that would fully cure dementia. Pharmacotherapy slows the occurrence of subsequent symptoms of the disease. Positive effects are also provided by non-pharmacological treatment - occupational therapy, music therapy, ergotherapy, choreotherapy or sociotherapy.

Dementia is a significant problem among the elderly. Proper diagnostics and quick treatment allows to improve the quality of life of the patient.

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