

The psychopathological pictures of the early stages of dementia

Leszek Bidzan

II Department of Psychiatry, Medical Academy, Gdańsk
Head of the Department: Prof. Adam Bilikiewicz, MD

People in early stages of dementia differ from those without its symptoms in the occurrence of many psychopathological symptoms (not only those connected with the cognitive sphere).

Key words: Dementia of Alzheimer type, vasogenic dementia, prodromal symptoms

Introduction

Vast means have been allocated to the research into successful methods of treatment. However, contemporary medicine remains helpless as regards dementia syndromes, both primarily degenerative ones (of Alzheimer type) and those of vasogenic etiology. At the same time, many reports suggest that it is possible to apply a successful therapy or at least slow down the progress in dementive processes (e.g. results of research into the application of tetrahydroaminoacridine) [7,8]. As far as the treatment of dementia syndromes or of other chronic illnesses is concerned, the period in which the therapy starts is vital. The better the therapeutic effect the less damaged is the central nervous system. It seems that there are pharmacological agents that may successfully inhibit the increase in brain degenerative changes. Unfavorable opinions about certain drugs are often connected with their late application. Sometimes they are administered in late stages of the illness, when applying them is not only purposeless but sometimes even harmful. Unfortunately, most of dementia cases are recognized in the stage of the complete clinical syndrome, too late from the point of view of therapy. At the same time, it is very difficult to recognize a dementia syndrome early enough and it requires a comprehensive examination of a patient. Numerous researchers point out that there exists a preliminary phase in the development of dementia syndromes, during which numerous complaints are not often connected with dementia [5]. This, however, is probably the only period in which medical treatment might be effective. The hitherto existing data concerning the clinic of early stages of development of dementia syndromes are still insufficient to be used in practice. It is known that in the early stages of dementia syndromes we can relatively often observe increased anxiety, lowered mood or other

psychopathological symptoms, not necessarily suggesting the presence of dementia. The fairly frequent “depressive” beginnings of dementia are indicated both in information appearing in literature and own observation [14]. In the research conducted by Sattel et al., the symptoms of depression have been observed in 58% of the patients with dementia of Alzheimer type, especially in the early stages of the illness [21]. On the other hand, Migliorelli et al. recognized dysthymia in 28% of the patients, while 23 % had a large depressive episode [17]. Dysthymia symptoms are associated with psychological response to progressive impairment of cognitive functions, and the biological factors are responsible for large depressive episodes. Sometimes the decrease of cognitive activities is preceded by the disturbances of focal functions. There appears agraphia, apraxia, agnosia and aphasia. Some researchers emphasize the significance of the impairment of orientation in space [5], although, as the results of the research conducted by Herlitz et al. show, abilities to perform spatial-visual tasks undergo an impairment much slower than certain other cognitive functions [12]. The early and quite specific disturbance may consist in difficulty in repeating words, especially longer ones, as the research by Neil et al. has shown [19]. Breitner et al. also pay special attention to the significance of disturbances in repeating both words and non-verbal material [4]. In their research based on neuropsychological tests, Jacobs et al. show that very early stages of dementia of the Alzheimer type are characterized by traces of amnesic aphasia and deterioration in abstract thinking as well as memory function [13]. Monsh et al. also claim that in early stages of dementia the most important impairment occurs in semantic knowledge (capacity) [18]. Haupt et al. indicate the difficulties in finding proper words connected with apathy [11]. Also, the estimation of the non-cognitive sphere may be helpful in early recognition of dementia syndromes; this hypothesis is proved in the work by Wild et al. [23]. All the changes in professional and social functioning of a man may be of great importance. Stern et al. recognize the withdrawal from social functions as a factor that may predict the development of dementia [22]. The pre-clinical phase of the development of dementia lasts approximately four years, which seems to be a relatively long period to diagnose it correctly.

The results presented below have been worked out on the basis of many years long observation of a selected group of elderly people. The aim of this observation was to describe the most frequent psychopathological symptoms in preliminary stages of dementia syndromes and in the periods directly preceding the development of dementia.

Method

Qualification for the examination:

The initial population consisted of all the people who, on 1.07.96, were the patients of the two Old People’s Homes in Gdynia and all the people who were consulted at the Outpatient Clinic for Mental Diseases in Gdansk between 1.05–31.10.1996.

The persons qualified for the program fulfilled the following conditions:

- Consent to the examination;
- Age: over 55;

- Somatic state allowing for a thorough examination;
- Absence, both at the moment of examination and in the past, of any full-symptom psychopathological syndromes, except for dementia syndrome of inconsiderable intensity, i.e. no less than 3 points according to Reisberg's scale and no more than 20 points on Folsteins' scale (MMS).

Criteria for the recognition of dementia syndromes:

DSM IV [2] criteria have been accepted as the basis for the recognition of dementia syndromes:

A. Impairment of cognitive functions manifested by:

1. Impairment of memory functions (impairment of the ability to acquire new information and recall the already acquired one);

2. Ascertainment of at least one of the symptoms below:

- aphasia

- agnosia

- apraxia

- disturbance within the range of such activities as: planning, organizing, maintaining a sequence and abstracting;

B. Any vital disturbance in social and professional functioning resulting from the above mentioned symptoms;

C. Absence of consciousness disturbances (at the recognition of dementia syndrome).

Dementia of Alzheimer's type:

1. Symptoms appearing gradually and increasing in time;

2. Exclusion of other causes of dementia, i.e.:

- central nervous system diseases: of vasogenic etiology, Parkinson disease, Huntington disease, subdural haematoma, brain tumor;

- hypofunction of thyroid gland, deficit of B 12 vitamin or folic acid, hypercalcaemia, syphilis;

- dementia caused by chemical substances (including alcohol) or by physical injury.

Vasogenic dementia:

1. Neurological examination shows the presence of focal symptoms and/or any other data appearing in the interview, which may indicate the disturbance in cerebral circulation (chronic headaches, fainting, past paresis); additional examination shows features proving the disturbance in cerebral circulation (e.g. infraction foci in the cortex or white matter of the brain in CT or MRI picture);

or

2. 6 or more points at examination on Hachinski's scale [10];

3. Absence of any other possible specific causes of dementia.

The qualified patients underwent basic examination consisting of the following elements:

- estimation of the psychic condition according to AMDP scale [1];
- estimation of the somatic condition according to AMDP scale [1];
- qualification of the intensity of the possible dementia syndrome on the basis of the Global Scale of Dementia [20];
- rating of the Huchinski's scale [10];

The estimation of the cognitive function level was made on the basis of the following methods:

- Blessed's scale [3] – BLS*
- Folsteins' scale (MMS) [9] – MMS*
- Instrumental Activities of Daily Living scale [16] – IADL*
- Physical Self Maintenance Scale [16] – PSMS*
- collecting of anamnesis data (based on AMDP – “Demographic data” and “Life events”) [1];
- Prodromal Symptoms Card (the author's method)

After a preliminary examination, 421 persons have been qualified for further observation and divided into the following groups:

- 353 persons without any psychopathological syndrome;
- 32 persons with dementia of Alzheimer's type (DAT);
- 36 persons with vasogenic dementia (VD).

In order to compare psychopathological pictures of preliminary forms of dementia processes, 36 persons were randomly selected (with the help of a drawing machine), out of those with no dementia symptoms, to make up a control group (CONT).

Results

Table 1

Average magnitudes of the following scales: Mini Mental State (MMS), Blessed's (BLS), Instrumental Activities of Daily Living (IADL), and Physical Self Maintenance Scale (PSMS) obtained in the control group and in the groups consisting of people with dementia of Alzheimer type (DAT) and vasogenic dementia (VD).

	CONT	DAT	VD
AGE	76.83	76.96	76.44
MMS	28.42**	22.81	22.06
BLS	0.82**	2.25	2.61
IADL	18.53**	19.44	20.11
PSMS	6.78**	8.75	9.28

*** p < 0,001

Table 1 shows the results obtained at the beginning of the observation of the examined groups. The members of the control group differed significantly from the patients with dementia syndromes (both of Alzheimer and vasogenic type) with regard to each

* the abbreviations of the research tools that will be used further have been underlined

of the applied clinical scales.

Table 2 shows some psychopathological symptoms estimated by means of the AMDP scale. Intensification of the symptoms and frequency of their occurrence underwent statistical analysis. Its results (CHI) as well as the significance levels for each of the examined variables have been placed in the table. Only these symptoms have been taken into consideration, which proved statistically significant. The groups of persons with dementia differed substantially from the control group as regards symptoms connected not only with the cognitive sphere. Both the persons with dementia of Alzheimer type and those with vasogenic dementia manifested a lack of feelings. Moreover, vasogenic dementia was more often accompanied by symptoms like irrita-

Table 2

Results of the analysis of differences in the frequency of the occurrence of some psychopathological symptoms in the control group and among the people in early stages of dementia syndromes: of Alzheimer type (DAT) and of vasogenic type (VD)

Variable	DAT	VD
	CHI	CHI
COMPREHENSION	29.003*	15.818*
CONCENTRATION OF ATTENTION	27.317*	20.038*
MEMORIZING	33.094*	30.003*
DURABILITY OF MEMORY	19.087*	23.167*
SLUGGISHNESS OF THINKING	18.887*	5.851
FULLNESS OF DETAIL	18.187*	7.388*
NARROWING OF THINKING	21.974*	10.776*
RESERVEATIONS	11.625*	0.633
HELPLESSNESS	9.747*	4.776
LOCK OF FEELINGS	10.300*	9.000*
NEGATIVE OPINION OF SITUATION	5.561	7.058
IRRITABILITY	4.961	7.497*
EXPRESSING COMPLAINTS	4.888	1.883
HIGHTENED DRIVE	4.342	5.164
WITHDRAWAL	6.977*	1.954
UNWILLINGNESS TO LIVE	8.584*	5.885

CHI – value of the test χ^2

* – statistically significant values ($p < 0,05$)

bility, negative opinion of one's own situation and increase in psychomotor activity, the last two statistically not significant. On the other hand, persons with dementia of Alzheimer type, unlike those without dementia features, more often manifested symptoms like helplessness, social withdrawal and reluctance to living.

Table 3 compares the estimates of the IADL scale (Instrumental Activities of Daily

Table 3

Comparison of the results of the IADL scale (Instrumental Activities of Daily Living) in the groups of the demented (DAT and VD) and the control group

VARIABLE	DAT CHI	VD CHI
USE OF TELEPHONE	18.245*	18.063*
SHOPPING	21.256*	28.920*
MEALS	16.452*	20.390*
CLEANING	22.105*	18.331*
WASHING CLOTHES	9.411*	19.990*
COMMUTING	14.348*	17.037*
MEDICINES	9.258*	18.149*
FINANCES	10.111*	6.806*

CHI – value of the test Chi²

* – statistically significant values (p < 0.05)

Living) between the group with recognized dementia process and the control group. All the items on IADL scale differentiate significantly the two compared groups. This is, in a sense, obvious but the differences vary in size. The variable which achieved the

Table 4

Comparison of the results of the Physical Self-Maintenance Scale (PSMS) in the groups of the demented patients (DAT and VD) and the control group

VARIABLE	DAT CHI	VD CHI
TOILET	0.696	9.806*
MEALS	2.790	2.382
DRESSING	5.256*	14.800*
APPEARANCE	18.918*	24.001*
MOVING	14.718*	20.797*
BATH	9.530*	3.610

CHI – value of the test Chi²

* – statistically significant values (p < 0.05)

lowest level of significance in the statistical analysis was the ability to do shopping.

Table 4 shows the results of the statistic analysis for PSMS (Physical Self Maintenance Scale). It is opportune to add that the examined groups differ from the control group only in respect to some items of the scale.

Table 5 shows the results of a standardized interview concerning the condition of a

Table 5
 Comparison of the frequency of occurrence of the selected symptoms between DAT and VD groups in the periods directly preceding the development of psychoorganic syndrome

VARIABLE	CHI
Forgetting where one has placed objects	4.037
Forgetting the names of people previously well known	0.767
Getting lost when travelling to a new place	0.073
Worse performance of work – observed by the companions	13.16
Trouble in remembering names of people and places – observed by the family	0.355
Poor remembering of the content of books and articles	2.739*
Difficulty in remembering the names of people recently met	1.258
Losing or unexplained cutting away of valuable objects	0.006
Disturbances in consent to form a work	0.300
Lowered professional capacity and worse social functioning	4.984**
Headaches	2.805*
Depression	0.567
Anxiety	3.778*
Pain	7.984**
Sleep disturbances	10.192**

CHI – value of the test χ^2

P – statistically significant level: * $p < 0.05$
 ** $p < 0.01$
 *** $p < 0.001$

While describing the symptoms from 1 to 10, we used Reisberg's scale translated into Polish by Łuczywek E. and Kotapka-Minc S. (16).

Only the item III g has been modified.

patient from the period directly preceding the development of dementia according to the "Prodromal Symptoms Card". People with the Alzheimer type dementia differ from those with the vasogenic dementia by symptoms like lowered professional capacity, decrease in social functioning, non-specific pain and sleep disturbances.

Discussion

The analysis of the psychopathological picture of preliminary types of dementia revealed a much more frequent occurrence of the symptoms traditionally considered as part of the circle of the depression syndrome, especially in the case of a primarily degenerative process. A significant increase of symptoms like helplessness, complaints about lack of feelings, unwillingness to live and withdrawal from social activity was observed among people with dementia of Alzheimer type. The above mentioned symptoms are very often regarded as "typical" of elderly people without any developed form of dementia. This fact makes an early recognition of a dementia process difficult. Moreover, co-occurrence of some of these symptoms, both in depression and in dementia syndromes, is a serious obstacle in differentiating between the two

of them. As it results from examinations already carried out by the author, none of the groups with dementia, compared with the control group, showed lowered mood – the basic symptom of the depression syndrome. We should rather speak of a certain depressive reaction conditioned, among others, by the circumstances accompanying the deterioration of the cognitive functions. A negative opinion of the situation with an accent on irritability appears especially in vasogenic dementia where, owing to frequent focal character of the process, critical attitude towards the situation is relatively long preserved. In the light of the obtained results we should agree with the statement issued by Stern et al. [22], in which social withdrawal is emphasized as a symptom predicting the development of dementia. Interesting is the fact that social and professional abandonment is typical of the preliminary forms of dementia of Alzheimer type. Comparing with dementia of vasogenic etiology the above mentioned behavior occurs much more often (0.034) in patients with primarily degenerative dementia, also in the time preceding the development of full-symptom clinical syndrome.

Among the symptoms belonging to the cognitive sphere the most typical one for Alzheimer and vasogenic types of dementia is a disturbance in memorizing. This proves directly the above presented observations resulting from neuropsychological examinations carried out by Neils et al. and Breitner et al. As the obtained results seem to suggest, in dementia of Alzheimer type, the disturbances are of more global character and refer, except memorizing, to concentration, durability of memory, sluggishness in thinking and its narrowing with an exaggerated concern about the detail. On the other hand, in vasogenic dementia there is a decreased tendency for the appearance symptoms like turning to details in thinking and especially sluggishness of thinking ($p=0.054$ as compared to 0.00097 for dementia of Alzheimer type). The presence of perseveration, much more common among people with dementia of Alzheimer type, seems to be the symptom that may be of significant importance for differentiating between the preliminary stages of the two types of dementia.

The examination by means of: MMS, Blessed's Scale, Instrumental Activity of Daily Living and Physical Self Maintenance scales showed that each of the applied tools differentiated people in early stages of dementia from the control group. Usefulness of the Mini Mental State for the estimation and differentiating between the preliminary stages of dementia was stressed in earlier elaborations [6]. The present research only gives a proof for such conclusions. As it results from our analysis, the functions described in the IADL scale undergo a significant deterioration already in the early stages of dementia processes. It is also worth mentioning that an aggravation of disturbances in performing of the activities described by the IADL scale is similar among people with both types of dementia, Alzheimer and vasogenic, what proves the existence of similar behavioral effects of deterioration of the central nervous system, regardless of etiology. Moreover, the disturbances in the sphere of functioning and the deterioration of some cognitive functions clearly differentiate between the examined patients with the recognized dementia syndrome in preliminary stage and the control group.

The collection of data of the standardized interview concerning the period directly preceding the development of full-symptom dementia syndrome shows that the psychopathological pictures of preclinical stage are different for dementia of vasogenic etiology and the primarily degenerative dementia. It has been mentioned above that the

abandoning of professional and social activities seems to be typical in the preliminary periods of dementia of Alzheimer type. Moreover, sleep disturbances, unspecified pains and anxiety appear more often in the primarily degenerative type of dementia, whereas the complaints about headaches are more characteristic for the developing process of the vasogenic type of dementia.

On the basis of the examinations carried out, the following conclusions can be drawn:

- people in early stages of dementia differ from those without any symptoms of this disorder by the occurrence of many psychopathological symptoms (not only those connected with the cognitive sphere).
- in the period preceding the development of dementia, the frequency of occurrence of some symptoms is different according to the etiology of the process (Alzheimer or vasogenic).

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