

## Psychiatric Aspect of Vascular Dementia

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### Abstract

The pathomorphosis has taken place in recent years in the clinic of psychiatric and neurological diseases, and also in vascular dementia with neuropsychiatric symptoms. In this regard, there is a need to study the modern clinical features of psychopathological symptoms in vascular dementia. Our research has focused on the clinical features of mental disorders in vascular dementia in the last 5 years.

**Keywords:** Vascular dementia, Psychopathology, Neuropsychiatric symptoms, Dementia, elderly, Behavioral symptoms

### Introduction

Interest in dementia has increased in recent years. Many articles, theses and research works on this study can be found on the Internet. Unfortunately, the study are mostly around dementia caused by Alzheimer's disease. The number of studies on vascular dementia, which ranks second after Alzheimer's dementia in terms of prevalence, is lower than on other subjects [1,7,9,25].

If we take a brief look at the factors influencing the development of vascular dementia, we can see that its prevalence is increasing day by day. So, these factors include:

- etiological factors (vascular origin),
- morphological factors (stroke, changes in the white matter of the brain, cerebral atrophy),
- individual indicators (age, level of education),
- condition of the cognitive sphere [6].

Just looking at stroke from these factors will help us come to the above conclusion, because in recent years, the prevalence of stroke among the population is increasing day by day. Studies show that the prevalence of stroke in developing countries has doubled in the last 40 years [7]. In these countries, stroke develops 15 years faster. Some studies report that dementia develops in 10–17% of stroke patients and some studies determine it as 6–32% [10,11,17]. Even there are studies showing that strokes increase the risk of developing vascular dementia by 4–12 times [23].

The reason for emphasizing this information in the article is that we want to show that there is a need for a broader study of vascular dementia, as well as the need to study the psychopathological symptoms of vascular dementia.

Although the main symptom of dementia is cognitive impairment, neuropsychiatric disorders can also develop at any stage of the disease. 60–90% of dementia patients have one or more types of neuropsychiatric symptoms [15,20,24,26]. 79–97% of patients living in dementia care centers have one or more psychopathological symptoms [19,27]. However, in any case, those caring for the patient are more concerned with psychopathological symptoms than with a decrease in cognitive function. Often because of these symptoms, psychiatrists are consulted. There are different data on the occurrence of psychopathological symptoms in patients with vascular dementia. The main reason for this is the different examination methods used to detect symptoms [18]. In vascular dementia, one or another psychopathological symptom is observed in 81.1% of cases, and 2 or more symptoms are observed in 15% of cases. There are

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reports of apathy in 56.6% of patients, anxiety and agitation in 18.9%, delusions in 14-27%, hallucinations in 5-14%, depressed mood and disinhibition in 5.6% [2-5,12-24,16,18,21,22].

The pathomorphosis has taken place in recent years in the clinic of psychiatric and neurological diseases, and also in vascular dementia with neuropsychiatric symptoms. In this regard, there is a need to study the modern clinical features of psychopathological symptoms in vascular dementia.

**Objective:** To study the modern clinical features of psychopathological symptoms in vascular dementia.

### Materials and methods

The research was retrospective. Thus, during 2015-2019, the medical records of patients with vascular dementia treated at the Azerbaijan Psychiatric Hospital and Clinical Psychiatric Hospital in Azerbaijan were studied. The data was systematized and processed using SPSS 23 program.

### Discussion

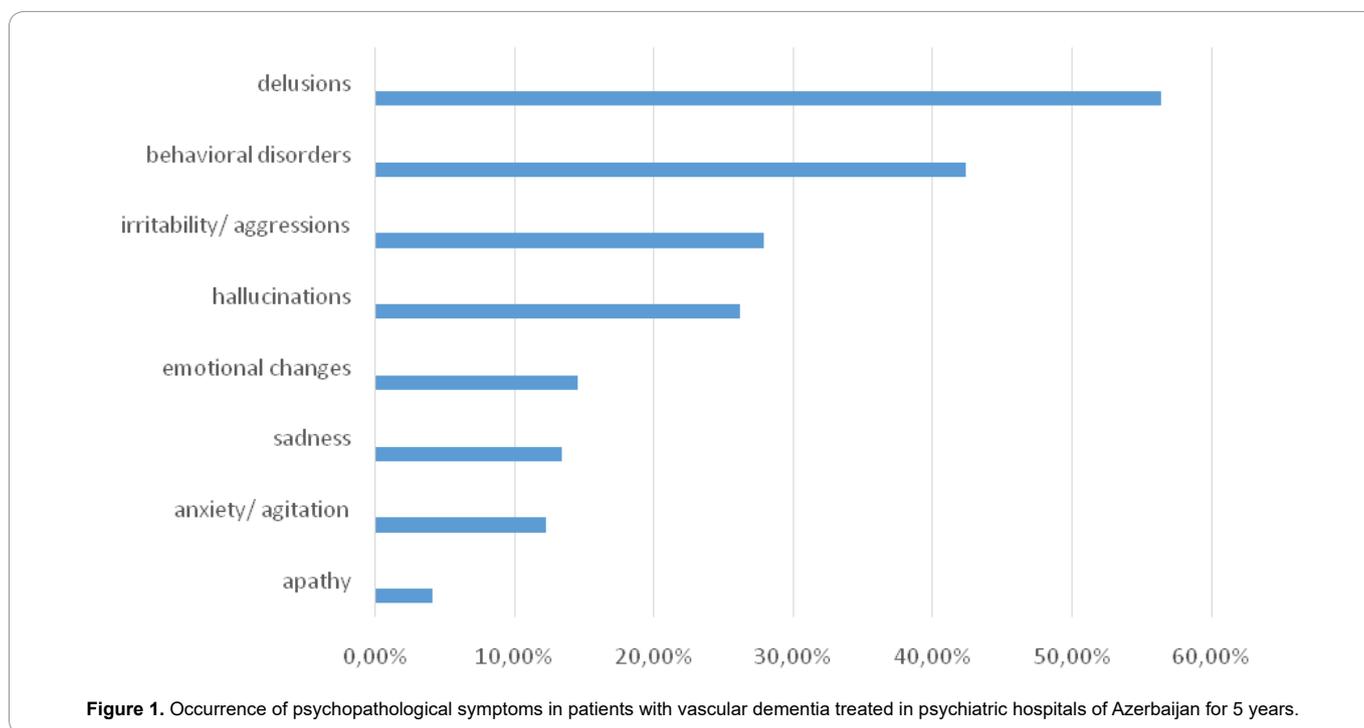
Based on the patients applied for inpatient treatment it would not be correct to draw conclusions about the prevalence of vascular dementia in Azerbaijan. Therefore, our research has focused on the clinical features of mental disorders in vascular dementia in the last 5 years.

During these years, 172 patients with a diagnosis of vascular dementia were treated in a psychiatric hospital, 52.9% of whom were women and 47.1% were men. The mean age of the patients was found to be  $72.62 \pm 9.4$  (SD). 64.6% of them had 2 or more, and 33.7% had only one psychopathological symptom. 1.7% of patients showed no psychopathological symptoms. The incidence of psychopathological symptoms was as follows: delusions 56.4%, behavioral disorders 42.4%, irritability/ aggression 27.9%, hallucinations 26.2%, emotional changes 14.5%, sadness 13.4%, anxiety / agitation 12.2%, apathy 4.1%. The diagram shows the psychopathological symptoms in patients more clearly (Figure 1).

The percentage of occurrence of psychopathological symptoms by years is given in the table (Table 1).

The main reasons for inpatient treatment were delusions, hallucinations and behavioral disorders. Thus, in 9.3% of patients, behavioral disorders in the form of self-injury and surrounding injuries associated with delirium and cognitive decline, and in 5.8% of patients, suicide thoughts or suicide attempt were observed.

Although many studies have shown that apathy is the primary symptom of vascular dementia, apathy was observed in 4.2% of patients during hospitalization. There can be several reasons for this result. Against the background of other psychopathological



**Table 1.** Percentage of occurrence of psychopathological symptoms by years.

Years	delusions	halluci-nations	anxiety / agitation	irritability/ aggression	Emotio-nal changes	sadness	Beha-vioral disorders	apathy
2015	70,3%	27%	0,001%	13,3%	8,1%	5,4%	32,4%	0,001%
2016	66,7%	33%	13,3%	20%	26,7%	0,001%	46,7%	0,001%
2017	54,2%	31,3%	14,6%	22,9%	8,3%	14,6%	39,6%	6,3%
2018	47,6%	11,9%	11,9%	31%	14,3%	0,001%	38,1%	2,4%
2019	50%	33,3%	23,3%	53,3%	26,7%	23,3%	63,3%	13,3%

symptoms, apathy is less noticeable in the inpatient setting. Patients and relatives of patients admitted to the hospital are less interested in apathy for that period, so complaints about it are less expressed. At the same time, the examination methods used to detect psychopathological symptoms in Azerbaijan are less sensitive to the symptom of apathy. As a result, this symptom is less common in patients and less common in medical history. However, it can be seen from the medical records collected over the years that this is the most difficult psychopathological symptom to treat.

The study examined the relationship between delirium and irritability/aggression. According to Phi and V. Kramer, there is a correlation ( $r = 0.133$ ).

At the same time, patients were conditionally divided into 46-60 years, 61-74 years, 75-89 years, 90-100 years, and the correlation of psychopathological symptoms with age was studied. The information is reflected in the table (Table 2).

In our retrospective study, we observed that one of the reasons for patients to go to the hospital is suicidal ideation and suicide attempt. Thus, suicidal ideation and attempt were observed in 5.8% of patients, and the incidence rate increased every year (Figure 2).

### Conclusion

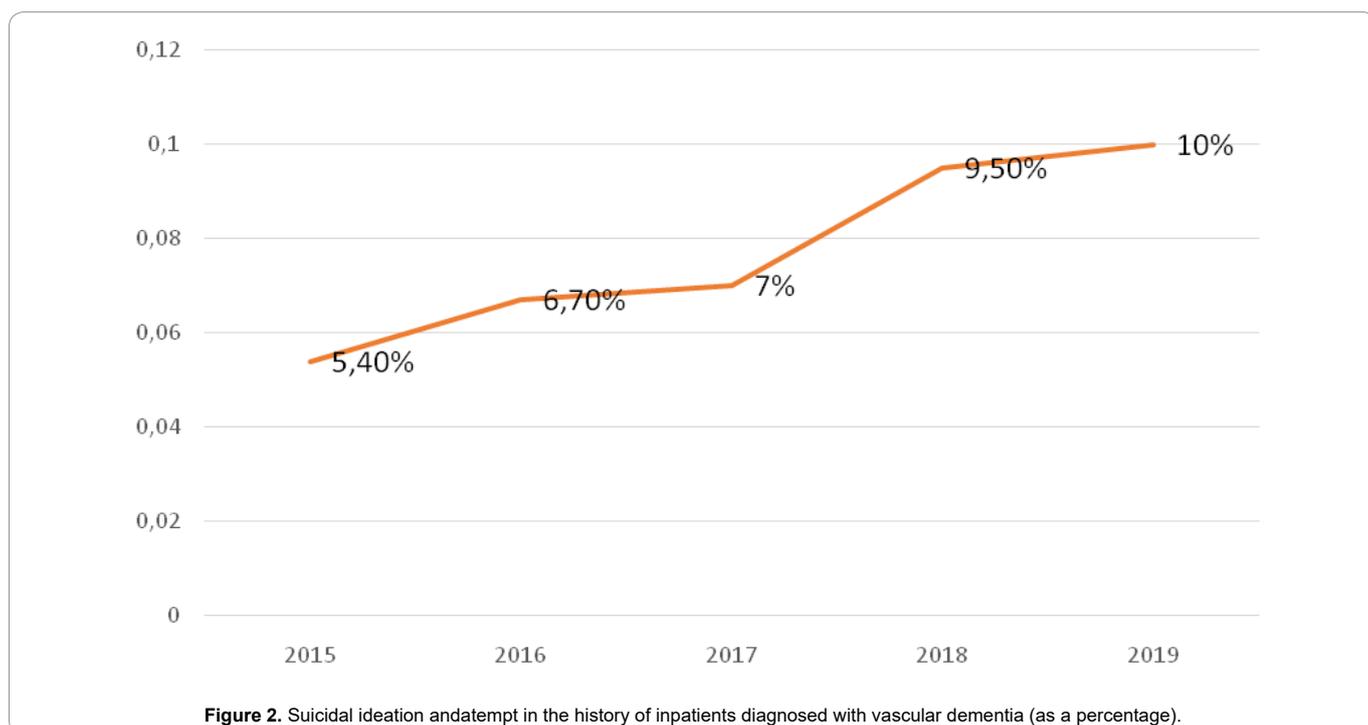
1. In 64.6% of inpatients with vascular dementia, 2 or more, and in 33.7% only one psychopathological symptom was observed.
2. The incidence of psychopathological symptoms was as follows: delusions 56.4%, behavioral disorders 42.4%, irritability / aggression 27.9%, hallucinations 26.2%, changes in the emotional sphere 14.5%, sadness 13.4 %, anxiety / agitation 12.2%, apathy 4.1%.
3. The main reason for patients to apply for inpatient treatment was delusions, hallucinations and behavioral disorders.
4. Although psychopathological symptoms are more common in patients with vascular dementia between the ages of 75 and 89, they decrease later as a result of neurodegenerative processes in the brain.
5. The number of patients with suicidal ideation or attempt is increasing among patients with vascular dementia.

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**Table 2.** Cases of age and psychopathological symptoms in patients with vascular dementia

Age groups	Patients with psychopathological symptoms							
	delusions	hallucina-tions	irritability/ag-gression	anxiety / agitation	emotio-nal changes	sadness	emotio-nal changes	apathy
46-60	9	3	5	4	3	2	10	1
61-74	37	19	23	11	14	12	37	6
75-89	49	23	18	6	8	9	37	6
90-100	2	0	2	0	0	0	1	0
Phi and V Kramer	0,194	0,123	0,186	0,137	0,191	0,2	0,164	0,191



**Figure 2.** Suicidal ideation and attempt in the history of inpatients diagnosed with vascular dementia (as a percentage).

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