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CORRELATIONS BETWEEN BRAIN LESIONS, RISK FACTORS AND AGE, IN VASCULAR DEMENTIA

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ABSTRACT. In Romania, dementia is under diagnosed due to lack of information, which makes the symptoms unrecognizable. Sometimes, even when symptoms are recognized, the patient is not taken to the doctor, because the symptoms he or she exhibits are considered normal consequences of aging.
Cardiovascular pathology and its associated risk factors lead to structural and functional brain changes. Cognitive impairment occurring within the general phenomenon of human aging is related to a variety of genetic, morphological, biological, socio-cultural and individual and in turn has major impact on morbidity and autonomy of the elderly.
A better understanding of the nature of the disease, its causation and early detection of brain changes can lead to early diagnosis of vascular dementia and the establishment of a prevention and treatment program that will help reduce the severity of dementia or morbidity.
Our world is dominated by economic criteria and a crucial component is cost-effectiveness. Therefore it is necessary, today more than ever, to choose useful and sufficient high quality examinations in order to give up costly and often unnecessary diagnostic exams
KEYWORDS: computed tomography, acute ischemic stroke, vascular dementia, risk factors, prevention.

INTRODUCTION

The diagnosis of vascular dementia is largely based on the demonstration of significant cerebra-vascular disease on imaging brain response, combined with a clinical history characteristic and often with evidence of focal neurological signs and symptoms on examination.

The fact that cardiovascular diseases are common in older people without dementia, changes the relationship between dementia and cardiovascular diseases. Circumstances in which cardiovascular diseases can cause dementia are important.

Dementia syndromes have, as a neuropathological substrate, an increased and rapidly progressive diffuse or multifocal neuronal degeneration, the initial clinical manifestation depending on the topography of maximal neuronal loss.

The neuro-radiological estimation is however justified with all patients with dementia in order to detect curable cases and, sometimes, to decelerate certain guiding issues important for etiological or differential diagnosis.

MATERIALS AND METHODS

The study included subjects diagnosed by CT at Euromedic Arad which were shown to have cognitive impairment that can be proven by psychological testing and CT changes of cortical atrophy. Material to be used in this study includes all the logistics of clinical data from patient history, analyzed over a period of four years, from 2007 to 2011.

As a working method we used data obtained from the CT analysis, the identification of risk factors and clinical, physical and psychological signs of slight cognitive deficits. Statistical data were processed with SPSS 19.

We analyzed, by way of computer tomography, a group of 100 subjects aged over 65 years who had CT changes, MMSE, risk factors for vascular dementia and associated pathology. Information sources were mainly individual files and case histories of each patient. Inclusion criteria: diagnosis of vascular dementia or vascular cognitive impairment easy, specific cerebro-vascular lesions, age over 65 years, risk factors for vascular dementia, present, MMSE <29; test at least 3 clock.

RESULTS AND DISCUSSION

To study risk factors in age categories we divided study participants into two groups: participants younger that or 75 years old and participants older than 75. There are differences between the two age categories for all risk factors. Below we present only those differences that are statistically significant. Thus, we have statistically significant differences between age groups regarding diabetes: $\chi 2 = 4.762$ to $p = .040$.

Diabetes mellitus is now in greater in people over 76 years - 30 people, compared with only 6 people aged 75 years. These differences are illustrated in Figure 1.

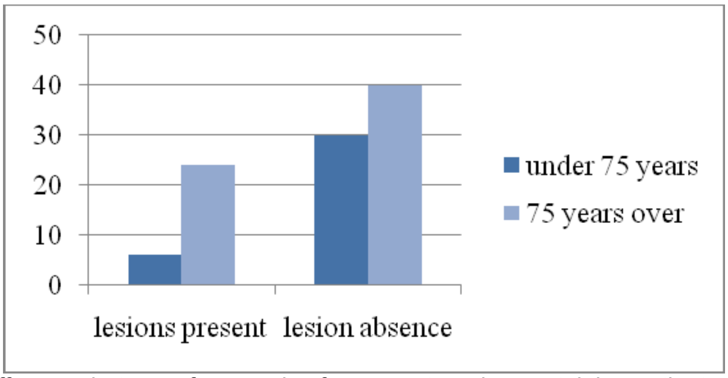

Fig. 1. *The difference between frequencies for age categories containing patients with diabetes.*

To test some hypotheses that appear in the literature, we analyzed risk factors in males according to age. The results presented and illustrated are statistically significant.

Men under 75 years have a greater occurrence of hypertension (22 patients) compared with men over 75 years (18 patients), as can be seen in Figure 2. The differences are statistically significant at a significance level less than .05: $\chi2 = 6.652$ to $p = .013$.

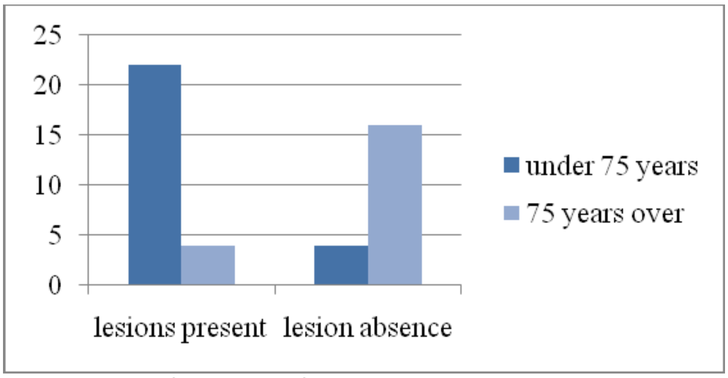

Fig. 2. The difference between frequencies for age categories containing patients with hypertension

Male patients aged over 75 have a greater chance of dyslipidemia compared with those under 75. Thus, 10 patients older than 75 years have dyslipidemia, while only 2 of those aged 75 years have this risk factor. Inferential processing results, $\chi2 = 4.344$ to $p = .050$, shows statistically significant differences.

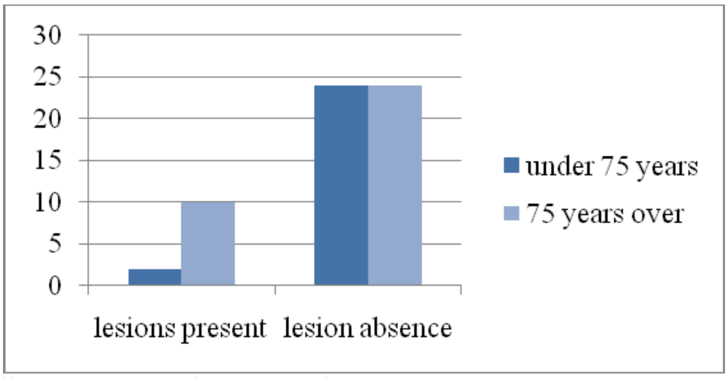

Fig. 3. The difference between frequencies for age categories containing men with dyslipidemia

In the case of alcohol abuse the situation is slightly different. This risk factor is present in a greater number of men aged 75 years (8 patients) than those older than 75 years. As can be seen from the figure below (Figure 4), respectively, as was shown in all graphs for comparison of frequencies, the test inference calculation taking into account both the cases with a specific lesion or factor risk and the number of patients who did not shown. And if alcoholism by age in men, these differences are statistically significant: $\chi2 = 6.570$ to $p = .015$.

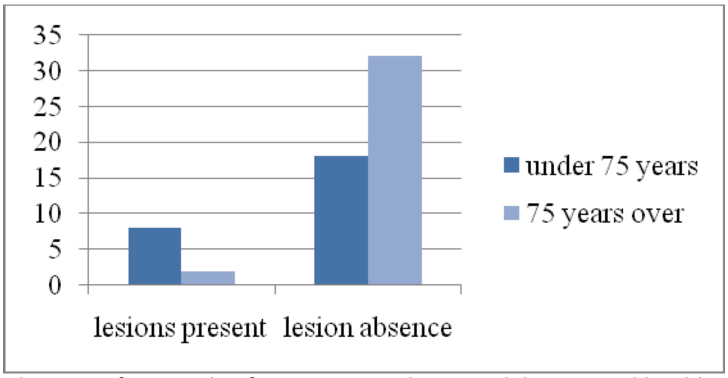

Fig. 4. The difference between frequencies for age categories containing men with a history of alcohol abuse.

There are differences between the two age categories for all risk factors. Cardiovascular disease can cause the loss in work speed in the elderly which can have a negative impact on various neuropsychological tests, which makes us think of the negative role that cardiac pathology has on cognitive function.

It was also noticed that in most patients with associated risk factors, that the changes in brain structure which are visible on CT are more complex.

Another aspect of the statistical analysis that we investigated was the differences between men and women relative to the evaluated sizes. For numeric variables such as age, onset age, number of vascular lesions, number of risk factors and MMSE score, descriptive indices were: average, median, standard deviation and minimum and maximum values for men and women.

Then we tested the significance of the differences between the averages using the Student test for independent samples. For the results given as frequencies we tested the significance of the difference between the effectives of the hi square non-parametric test.

Next we synthesized descriptive indices for men and women for numeric variables: age, onset age, number of vascular lesions, number of risk factors and MMSE score.

Table 1

Descriptive indices for the group of men

	age	Onset	lesions number	number of risk factors	MMSE
N	60	60	60	60	60
Media	76,9655	72,1724	7,3103	2,3793	25,9828
Median	78,0000	72,0000	7,0000	2,0000	26,0000
Standard deviation	7,67078	7,96954	1,93043	,89497	2,35820
Minimum	64,00	59,00	4,00	1,00	21,00
Maximum	97,00	95,00	12,00	4,00	29,00

Table 2

Descriptive indices for the group of women

	age	Onset	lesions number	number of risk factors	MMSE
N	40	40	40	40	40
Media	82,6500	77,6500	7,0000	2,2000	25,9500
Median	83,0000	77,0000	6,5000	2,0000	27,0000
Standard deviation	7,40945	7,45774	1,75412	,93918	2,36372
Minimum	60,00	58,00	5,00	1,00	20,00
Maximum	93,00	89,00	11,00	4,00	29,00

Analyzing the differences between men and women summarized in the tables above (Table 1 and Table 2), we see that women scored higher for age and age of onset of disease compared to men. Males scored slightly higher than women on number of vascular lesions, number of risk factors and MMSE score. Differences between men and women are illustrated in Figure 5, where are the average values obtained by them.

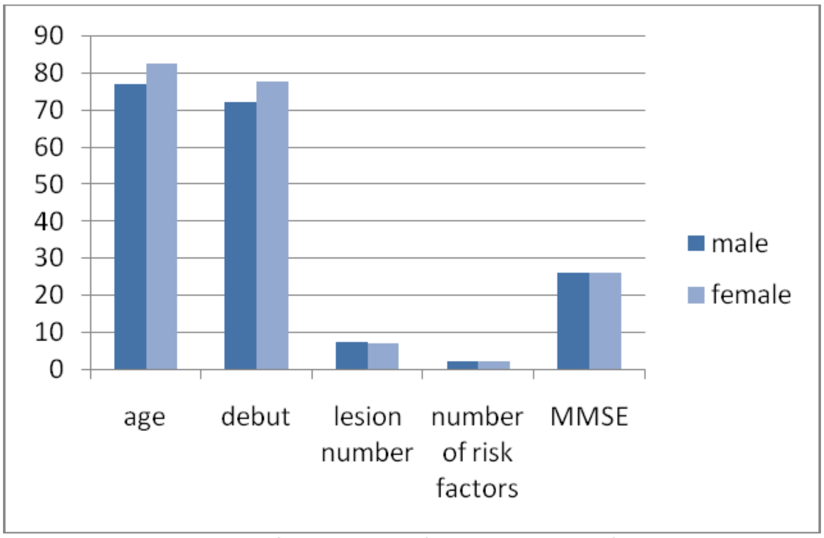

Fig. 5. Differences between men and women for age, age of onset, number of vascular lesions, number of risk factors and MMSE score

To see whether differences between men and women are statistically significant, we used the calculation of Student's t test for independent samples. The results are summarized in the table below (Table 3).

We note that although we have differences between men and women for all sizes investigated are statistically significant only obtained for: age of patients - t (98) = -3.678 at p = .000 and age of onset of disease - t (98) = -3.432 at p = .000.

Table 3

Inferential processing results for differences between men and women

	t	df	p
age	-3,679	98	,000
onset	-3,432	98	,001
lesions number	,811	98	,419
number of risk factors	,955	98	,342
MMSE	,068	98	,946

CONCLUSIONS

Vascular dementia consists of a heterogeneous group of diseases, including many that overlap in time. Variety of symptoms in patients with vascular dementia reflects the heterogeneity of pathophysiologic processes, as well as the number, size and variety of tissue lesions in patients location. Vascular dementia is more common in men, especially before 75 years, wiping gender difference is after this age.

Risk factors for vascular dementia were extrapolated from vascular disease, and people do not realize that the presence of these factors can lead to vascular dementia, as it can cause a stroke.

Vascular dementia is a form of dementia can be prevented. Early stages of the disease offers generous opportunity to prevent the development of dementia in various risk groups, among them are those with stroke, hypertension, diabetes mellitus, ischemic heart disease, smokers, those with hypercholesterolemia, history of bypass or other major surgery.

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Studia Universitatis "Vasile Goldiş", Seria Ştiinţele Vieţii
Vol. 22, issue 1, 2012, pp. 57-65

STUDY ON THE IMPACT OF BREAST CANCER, CURABLE VS. ADVANCED CASES, IN REGION 5 WEST OF ROMANIA, 2005-2009

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Summary: The purpose of this work was to study the impact of breast cancer, with its curability implications on the population of Western Region of Romania, the region comprising the counties of Timis, Caras-Severin, Arad and Hunedoara. We followed the incidence of breast cancer in parallel with population dynamics in this region, between 01.01.2005-31.12.2009, a period of 5 years. The study involved the disaggregation by area of origin (urban/rural), age, stage of disease (curable/ advanced) and the possibility of breast reconstruction postmastectomy. Subsequently, data were compared with those of European countries.
Keywords: breast cancer, statistics, Western Development Region 5

INTRODUCTION

The study of cancer incidence trends in a population is important because the changes over incidence lead in time to the formulation of hypotheses about important etiological factors, whose identification is followed by reduction of exposure and consequent lower risk of cancer. At the beginning of XXI century, cancer is still one of the most serious diseases facing mankind, is still the leading cause of death worldwide. According to WHO statistics (2007), over 10 million people were diagnosed with cancer and 6 million people die from this disease every year. In the U.S., cancer is the second leading cause of death, leading to about 25% of all deaths. In Europe, cancer remains an important public health problem, with 2.886.800 incidentally discovered cases and 1.711.000 deaths in 2004, and the aging of European population will favor the continued growth of these figures, even if rates of morbidity and mortality remain constant age-specific.

Currently there is a significant rise in the incidence of breast cancer worldwide. A woman's risk to develop breast cancer during life is a woman of 8 in the U.S., one of 12 in France, one of 19 in the UK and a woman of 34 in Romania. The most important risk factor for breast cancer is age, its effect on cancer incidence is considered as a measure of cumulative exposure to risk factors. Increase in cases is explained along with the aging of the population of Romania, illustrated by increasing the percentage of population 65 and over, from 10.27% of the total population in 1980 to 12.82% in 1998 and the reversal natural population growth over the past 30 years, from 11.6% in 1970 to - 1.4% in 1999.

In Romania, breast cancer is the most commonly diagnosed cancer and leading cause of death by malignancy in women, becoming the first cause of cancer death in women since 1981, when it exceeded the gastric cancer mortality. Each year are 4,400 new cases recorded, representing 22.41% of all new cases diagnosed and 2900 deaths, accounting for a share of 17.50% of all cancer deaths in women. Although Romania is still among the countries with relatively low incidence in Europe, the annual incidence has increased. The disease is uncommon under the age of 35 years. Between 30-34 years, incidence and mortality rates are gross of 7.95 to 100,000 women respectively 3.46 to 100,000 women, while in the 50-54 years age group, the incidence reaches 85.24 to 100,000 women and mortality of 42.57 to 100. 000 women continued to increase with age.

MATERIALS AND METHODS:

Personal research was based on a retrospective analysis of breast carcinomas diagnosed in Region 5 West of Romania, the region that today includes the counties of Arad, Caras-Severin, Hunedoara and Timis, a period of five years, during 01.01.2005 - 31.12.2009. Data interested were the total number of cases, sorted by age, the incidence in urban and rural areas, the curable or incurable stages, the total number of cancers reported in these counties, as well as breast cancer deaths, breast cancer incidence and prevalence in this region and the possibility of postmastectomy breast reconstruction. Subsequently, data were compared with those of Europe. Data were obtained via the cancer registries in archive of Timisoara Oncology Institute, in consultation with Directorate of Public Health Department of Arad, Caras-Severin and Hunedoara. We considered conservative interventions – sectorectomy, quadrantectomy and tumorectomy, with or without axillary lymphadenectomy, and radical interventions - modified radical mastectomies (Patey, Madden, Auchincloss). Interventions for relapse were considered separately. Statistical analysis of data was performed using EpiInfo 3.5.1 software, SPSS v.17.0 and Microsoft OfficeExcel.

RESULTS

The data corroborate the four counties mentioned above, we obtained the final results of our study, which refers to the Region 5 West, the changes which have occurred in the 5 years studied in the population of this region, as well as aspects of the impact of breast cancer level in this population.

Region Years	Total			Urban			Rural		
	Both	Men	Women	Both	Men	Women	Both	Men	Women
Region 5 West									
2005	**1930458**	**931508**	**998950**	**1227493**	**586740**	**640753**	**702965**	**344768**	**358197**
2006	**1927229**	**929877**	**997352**	**1223730**	**584553**	**639177**	**703499**	**345324**	**358175**
2007	**1924442**	**928996**	**995446**	**1219403**	**582295**	**637108**	**704329**	**346701**	**358338**
2008	**1926222**	**928544**	**997678**	**1214154**	**579824**	**634330**	**712068**	**353070**	**358998**
2009	**1919434**	**926874**	**992560**	**1209245**	**576617**	**632628**	**710189**	**350257**	**359932**
Arad County									
2005	459286	220861	238425	255083	121021	134062	204203	99840	104363
2006	458487	220514	237973	254425	120583	133842	204062	99931	104131
2007	457713	220355	237358	253437	120113	133324	204276	100242	104034
2008	457306	220212	237094	252679	119853	132826	204627	100320	104307
2009	455477	219739	235738	250951	119151	131800	201526	100588	103938
Caras-Severin County									
2005	331876	161656	170220	187559	90626	96933	144317	71030	73287
2006	330517	161001	169516	186943	90368	96575	143574	70633	72941
2007	327579	159654	167925	184693	89269	95424	142886	70385	72501
2008	326067	158942	167125	183418	88345	95073	142649	70112	72537
2009	322060	157061	164999	180650	87208	93442	141410	69853	71557
Hunedoara County									
2005	480459	233719	246740	369550	179461	190089	110909	54258	56651
2006	477259	231949	245310	367106	178042	189064	110153	53907	56246
2007	472284	229400	242884	362732	175715	187017	109552	53685	55867
2008	468316	227367	240951	359023	173813	185210	109295	53554	55741
2009	463102	224531	238571	355280	171608	183672	107822	52923	54899
Timis County									
2005	658837	315272	343565	415301	195632	219669	243536	119640	123896
2006	660966	316413	344553	415256	195560	219696	245710	120853	124857
2007	666866	319587	347279	418541	197198	221343	248325	122389	125936
2008	674533	324036	350497	422402	199379	223023	252131	124657	127474
2009	678795	325543	353252	422364	198650	223714	256431	126893	129538

Table 1. *Demographic data of Western Region, in the studied perioad (2005-2009)*

Analyzing the table above, we notice an overall decrease the Western Region of the population, from a number of 1,930,458 people in 2005 to 1,919,434 people in 2009. In the female population, the figure also decreased from 998,950 women in 2005 to a total of 992,560 women in 2009, so there is a decrease of 6390 women, overall. However the table also shows an element, that this decrease is not valid for all 4 counties in the West Region. If the county of Caras-Severin, Arad and Hunedoara notice a decrease in population of women with several thousand people (8169 in County Hunedoara, 5221 in the Caras-Severin county, 2687 in the Arad county), in Timis county we have a population growth in women with 9687 people. We realize this growth of population migration from other counties to Timis county, where there is probably more favorable economic situation, a lower unemployment rate, a better level of education and teaching, which has attracted these women to Timis county.

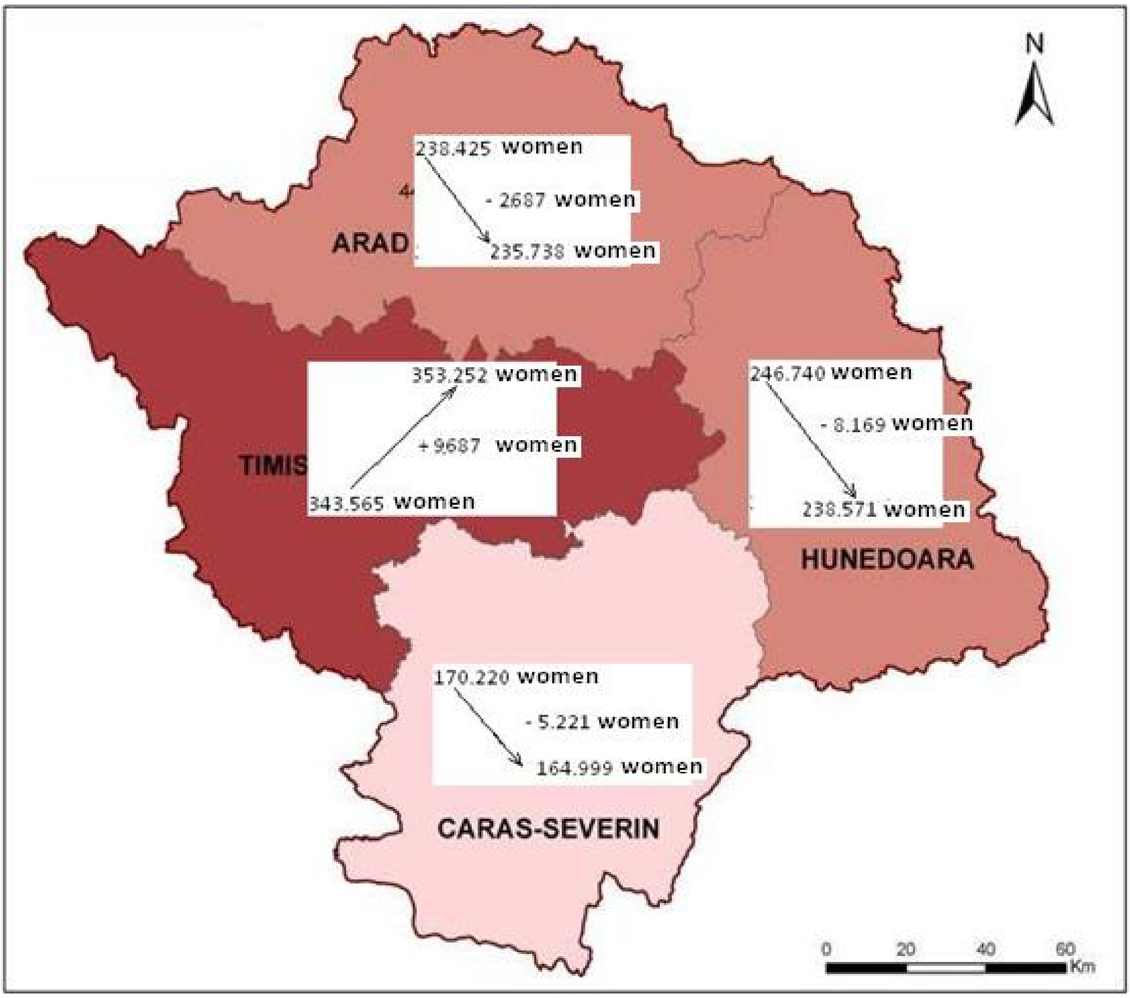

Fig. 1. Dinamic of women population in Western Region, 2005-2009

We detected a number of 2835 cases of breast cancer in the Western Region. This number results from the summation of all cancer cases in the 4 counties involved, 774 in Arad County, 667 in Hunedoara County, 909 in Timis county, and 485 in the county of Caras-Severin.

Year/Breast cancer cases	Arad	Hunedoara	Timis	Caras-Severin	Region 5 West
2005	136	140	191	90	**557**
2006	138	123	115	96	**472**
2007	161	142	172	98	**573**
2008	170	130	211	98	**609**
2009	169	131	220	103	**623**
TOTAL	**774**	**667**	**909**	**485**	**2.835**

Table 2. *Number of total breast cancer cases, Western Region, 2005-2009*

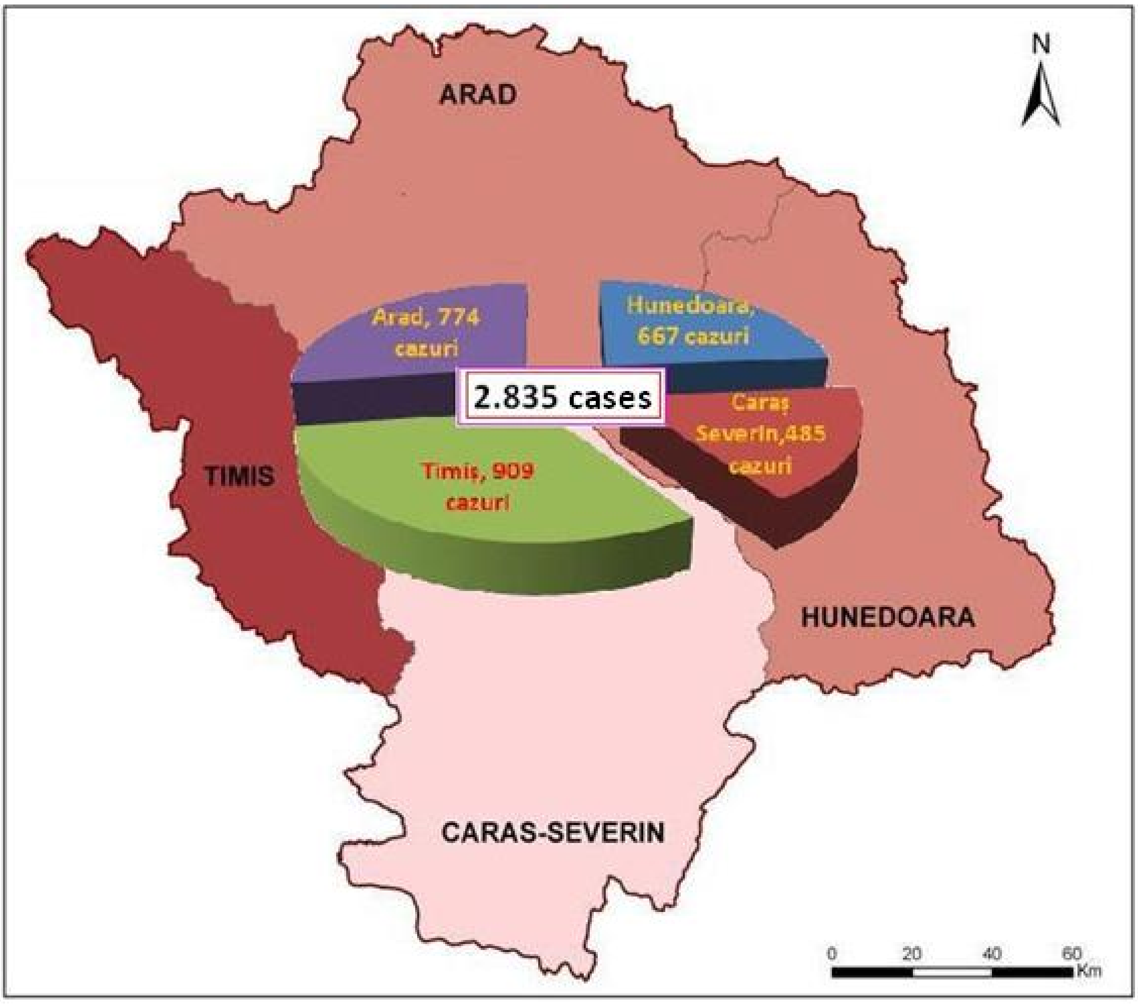

Fig. 2. Number of total breast cancer cases, Western Region, by counties, 2005-2009

Analyzing the total number of cases by counties, and the percentage share held by them in the number of cases of breast cancer, we found that on first place lies by far the Timis county, with a total of 909 cases and a 32% percentage, followed by Arad County with a total of 774 cases and 27%, then the Hunedoara county, with a total of 667 cases and a rate of 24% and on last place, Caras-Severin County, with a total of 485 cases and a 17% percentage. We note that Timis county almost doubled the number of cases and percentage of breast cancer in Caras-Severin, a territorial area almost equal, but different population density, as we shall see below.

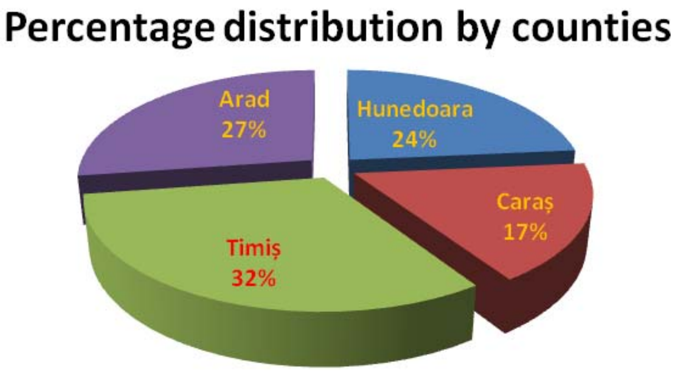

Fig. 3. Percentage distribution of breast cancer cases in counties of the Western Region, 2005-2009

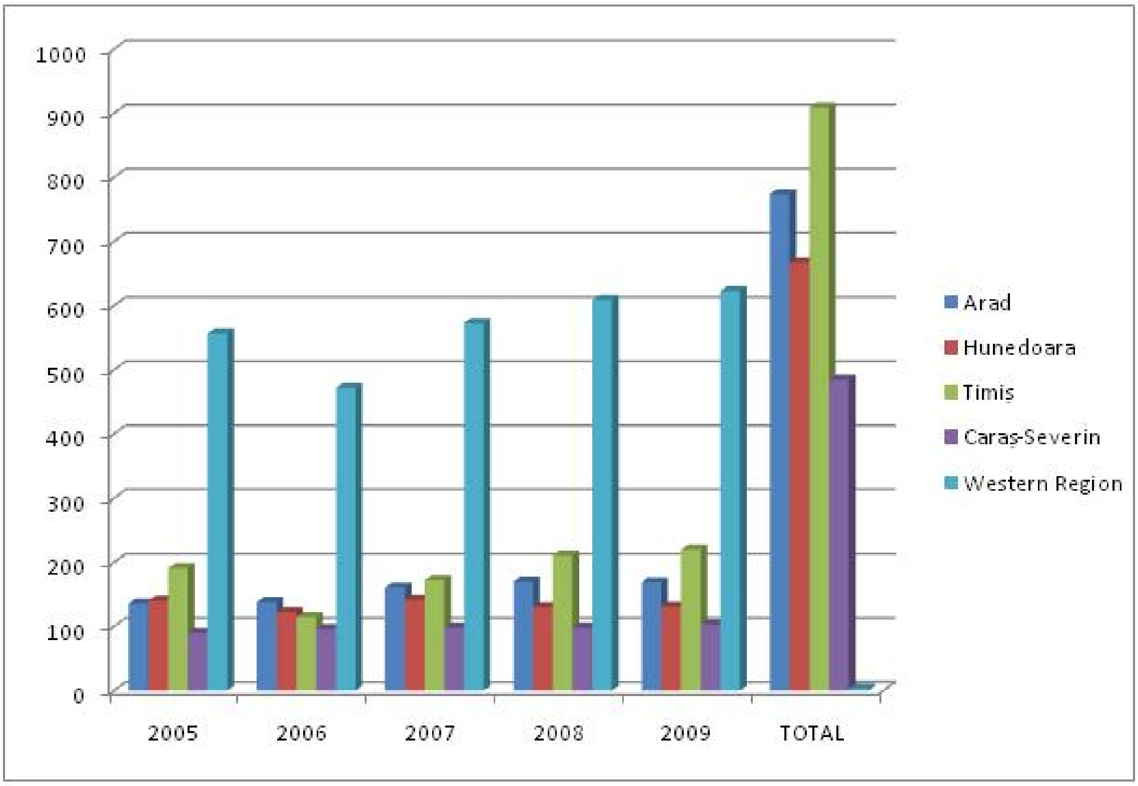

Fig. 4. Distribution by years of breast cancer cases in Western Region, 2005-2009

Analyzing the distribution by years of breast cancer in the Western region, we observe some oscillation at the beginning of the period studied, generated by decreasing of the breast cancer cases, from a number of 557 cases in 2005 to a total of 472 cases in 2006. Since that year, we practically have a steady increase in the number of cases during the study, with 573 cases in 2007, 609 cases in 2008 and 623 cases in 2009.

Year/Population/ Breast cancer cases	Female population	Breast cancer cases	Incidence, to 100.000 women
2005	998950	557	**55,75**
2006	997352	472	**47,32**
2007	995446	573	**57,56**
2008	997678	609	**61,04**
2009	992560	623	**62,76**

Table 3. *Incidence of breast cancer in Western Region, 2005-2009*

Important, however, in the study of disease incidence is actually reporting the number of cases per total population of an area at a time. Thus, calculating breast cancer cases of West Region, reported to the total population, we obtained the true incidence of this disease, the dynamic in the 5 years studied. In 2005 we have an incidence of 55.75 cases per 100,000 women, followed by a decrease in incidence in 2006, when it was only 47.32 cases per 100,000 women. In contrast, the incidence increased throughout the period studied, from 57.56 cases per 100,000 women in 2007, amounting to 62.76 cases per 100,000 women in 2009.

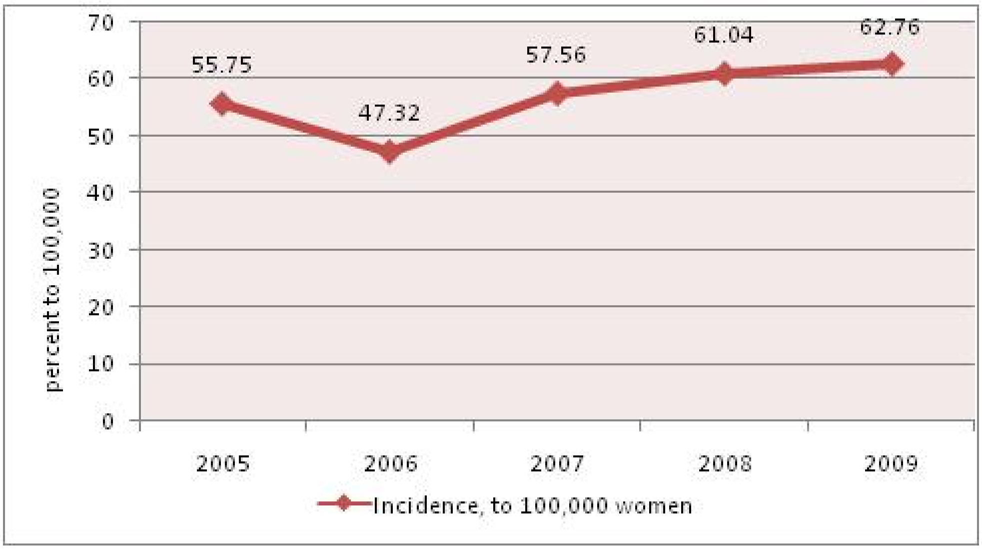

Fig. 5. Dynamic incidence of breast cancer, Western Region, 2005-2009

What interests us, however, both treating physicians of patients with breast cancer, both family physicians, as the first taking contact with the case, both health institutions, DSPs, Health Insurance Houses, and especially the patients themselves, is the rate of cure of the disease, as evidenced by the percentage of cases of breast cancer curable stage.

Year/ Disease stage	Arad		Hunedoara		Timis		Caras-Severin	
	Curable	**Advanced**	**Curable**	**Advanced**	**Curable**	**Advanced**	**Curable**	**Advanced**
2005	**40**	**96**	**28**	**113**	**74**	**117**	**36**	**54**
2006	**46**	**92**	**18**	**105**	**46**	**69**	**26**	**70**
2007	**65**	**96**	**30**	**112**	**69**	**103**	**45**	**53**
2008	**61**	**109**	**40**	**90**	**83**	**128**	**38**	**60**
2009	**74**	**95**	**47**	**84**	**88**	**132**	**35**	**68**
Total	**286**	**488**	**163**	**504**	**360**	**549**	**180**	**305**
Procent	**36,95%**	**63,04%**	**24,43%**	**75,56%**	**39,60%**	**60,39%**	**37,11%**	**62,89%**
TOTAL	**774**		**667**		**909**		**485**	

Analyzing the above table, we see that the percentage of cases of breast cancer in curable stages differ from one county to another, being highest in Timis county, with 39.60% of cases curable stages, followed by the Caras-Severin, with 37.11% of cases curable stages, then the Arad County, with 36.95% of cases curable stages, the last place the Hunedoara County, with only 24.43% of cases curable stages.

Region/Cases	Curable cases	Advanced cases	Total
West Region	989	1846	2835
Percent	**34,88%**	**65,11%**	

Table 5. *The proportion of curable vs. advanced cases, Western Region, 2005-2009*

Studia Universitatis "Vasile Goldiş", Seria Ştiinţele Vieţii
Vol. 22, issue 1, 2012, pp. 57-65

Thus, we observe from the table above that in the West Region we are faced with a total number of 989 cases diagnosed in the curable stage, representing an amount of 34.88%, and a number of 1846 advanced stage cases, representing a rate of 65.11%.

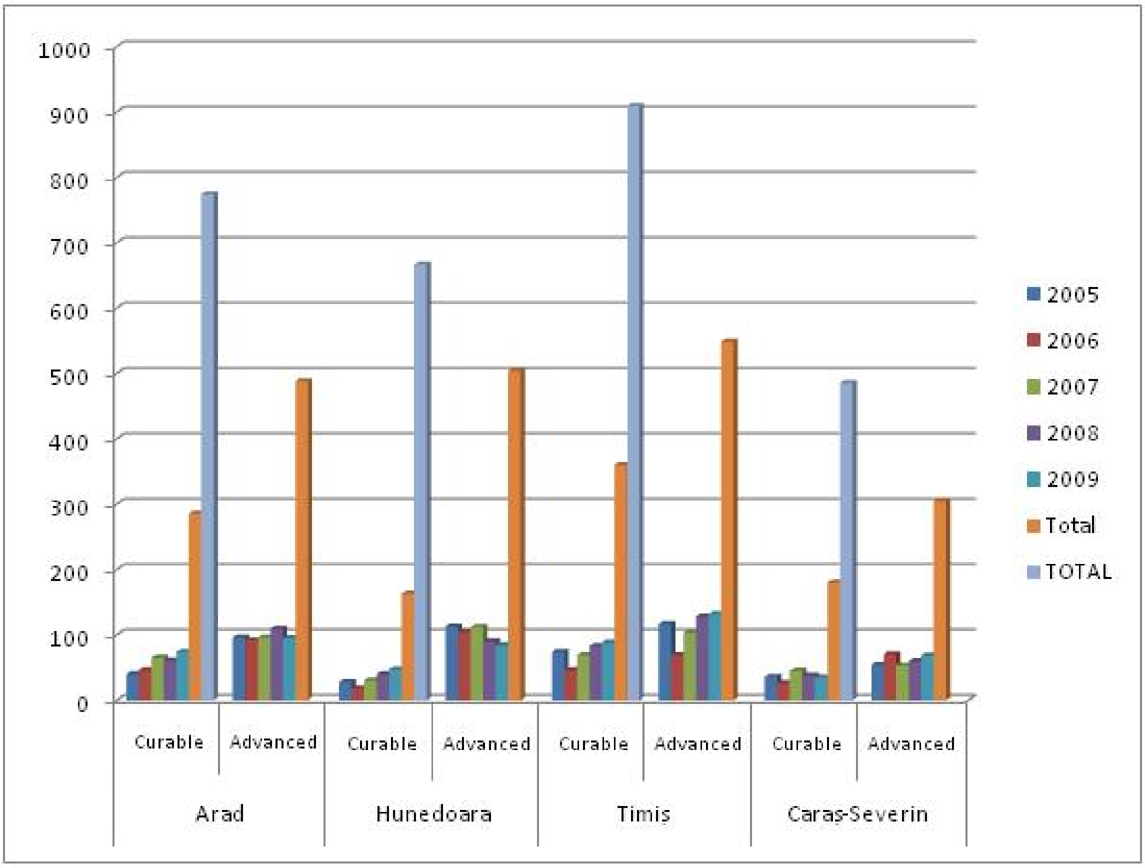

Fig. 6. Yearly report of curable vs. advanced stage cases of breast cancer, Western Region, 2005-2009

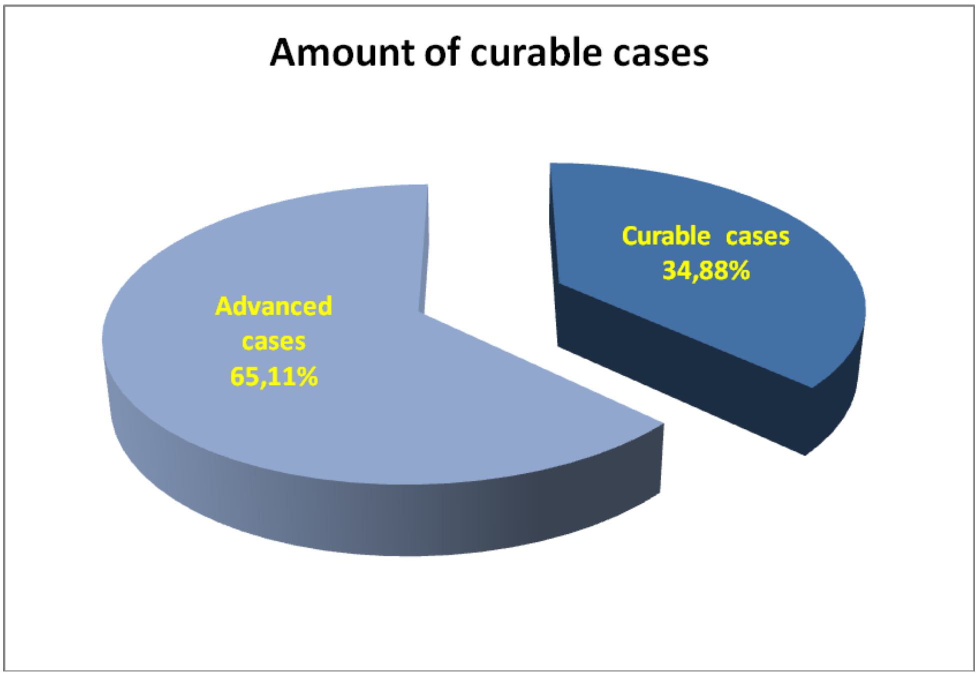

Fig. 7. Percentage of curable vs. advanced cases, Western Region, 2005-2009

By analyzing the table and figure above, the conclusion is almost self-evident. With a percentage of only 34.38% curable breast cancer, Western Region still faces acute public health problems. The disease is still growing at high rates in this region, the number of cases increases from year to year, and the percentage of cure is still very low.

Analysis of the individual counties allows also to visualize curable vs. advanced breast cancer rates. The average of 34.38% curable cases is found in the individual percentages by county, where we realize that counties like Caras-Severin and Hunedoara still wrestle with this pathology, perhaps especially in rural areas, in endeavors to improve diagnostic accuracy, an earlier diagnosis, better care of, and the level of institutions dealing with statistics of this disease.

DISCUSSIONS

In 2004, in Europe were found approximately 2,886,800 cases of cancer diagnosed by routine and 1,711,000 cancer deaths. Most common form of cancer incidentally detected in Europe in 2004 was lung cancer (381,500 cases, 13.2%), followed by colorectal cancer (376,400 cases, 13%) and breast cancer (370,100 cases, representing 12.8% of all cancers in both sexes). Lung cancer was also the most common cause of cancer death (341,800 deaths, 20% of all deaths), followed by colorectal (203 700 cases, 11.9%), stomach (137 900 cases, 8.1%) and breast (129 900 cases, 7.6%).

In the European Union, there were over two million cases of cancer diagnosed in 2004 (2,060,400 cases) and over one million cancer deaths (1,161,300 deaths).

In women, breast cancer is the leading cause of death in the European Union (88,400 deaths, 17.4% of total). Colorectal cancer was the second cause of cancer death (67,000 deaths, 13.2%) and the third cause lung cancer, with 55,900 deaths, 11%. By analysing the cancer incidence in general and breast cancer particularly in populations with cancer morbidity and reporting these groups to the number of people from those countries (EU and EEA, 2002), we can calculate the cumulative risk of cancer in these groups. In our study, we can be inferred the cumulative risk of cancer in the female population of Europe and European Union, respectively cumulative risk of cancer and breast cancer deaths at this population.

In Europe, a number of 370,100 cases of breast cancer are expected cumulative risk of 6.66%, while in the European Union, the number of 275,100 cases has a disease cumulative risk of 7.79%. In Europe, a total amount of 129,900 breast cancer deaths are expected cumulative risk of 2.02%, while in the EU on 88,400 deaths from breast cancer, we expect a cumulative risk of 2.05%. There has been estimated that in 2000 there were 350,000 new cases of breast cancer in Europe, while the number of deaths from breast cancer was estimated at 130,000.

Breast cancer is responsible for 26.5% of all new cancer cases among women in Europe, and 17.5% of cancer deaths.

There are substantial differences in breast cancer incidence and mortality in the European continent. Regions with the highest incidence are Western and Northern Europe, while southern and eastern Europe have lower incidence rates. The risk of developing breast cancer in Western Europe is 60% higher than in Eastern Europe. The highest mortality rates are also observed in Northern and Western Europe.

The average 5-year survival rate of women diagnosed with breast cancer has increased in Europe in late 1970 and late 1980. However, there were substantial differences between survival rates of European countries. Thus, if the survival of breast cancer cases diagnosed during the years 1985-1989 was 81% in Swedish women, it reached 58% in Slovakia and Poland. The highest survival rate was observed in young women, aged 40-49 years, being dependent on disease stage at diagnosis and correct performed therapy. In Europe there are major differences between countries in terms of early or advanced stage at diagnosis.

By the late 1980s few countries in Europe, especially Eastern Europe, had reliable statistics on the incidence of cancer. Accordingly, mortality was the only available indicator that reflected the burden of this disease. From 1950 until late 1980 breast cancer mortality has been steadily increasing in Europe, with few exceptions (Sweden, Norway). This trend was reversed in the 1990s, by 2004 taking place or at least stagnation decreases cancer rates in most European countries. Since the incidence rates do not reflect the generally downward trend, declining mortality can be attributed to better access to early diagnosis and treatment.

In 2004, the mortality rate was still rising in Latvia, Lithuania, Romania and Greece, and a clear decrease was seen in Poland, Bulgaria and Estonia. In Eastern Europe, cancer (all sites), has become the most common cause of death in women aged 20-64 years because of cardiovascular death rates began to decline in 1990; in 2002-2003, 22% of all cancer deaths in females in this region were due to breast cancer.

In Greece, a statistic made in 2009 by Zafrakas and Pavlidou, for a period of 25 years (1980-2005), the data being obtained from the National Statistical Service of Greece, show somewhat similar results, being aligned with those of others countries in Central and Eastern Europe. In general, breast cancer mortality in Greece has been an upward trend during the years 1980-2005. Subgroup analysis by age showed that this increase was limited to women aged over 70 years. By contrast, a slight decrease was observed after the mid-1990s, women between 40-69 years. There were no significant differences in mortality regional breast cancer. The trend of increased breast cancer mortality in women over 70

Studia Universitatis "Vasile Goldiş", Seria Ştiinţele Vieţii
Vol. 22, issue 1, 2012, pp. 57-65

years could be attributed to lack of secondary prevention indication as to the lack of systemic chemotherapy in these women. Instead, the implementation of these strategies could explain the recent fall in mortality Breast Cancer in younger age groups.

CONCLUSIONS

Breast cancer is a chronic disease with different prognosis and variable survival rate. There are regional differences in overall statistics regarding the burden of cancer in general and particularly breast cancer, and its evolution over time in Europe. They can be partially explained by differences in cancer risk factors, lifestyle, environmental factors, including tobacco, alcohol, diet and pollution. EUROCARE study results show large variations in survival rates among cancer patients in European countries, largely due to differences in screening, diagnosis and treatment timing. Many differences are rooted in social and economic inequalities, as a consequence of political systems that existed between different geopolitical regions of Europe. It is hoped that the implementation of current knowledge in cancer prevention, early diagnosis and proper treatment will reduce the CEE disadvantage in the current burden of cancer. In Romania in general and the Western Region in particular, breast cancer still has very high rates, with lower rates of cure, especially in the counties of Caras-Severin and Hunedoara.

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