

# INCIDENCE OF BREAST CANCER IN BANAT REGION, 2005-2009. A PARALLEL BETWEEN CARAS-SEVERIN AND TIMIS COUNTIES.

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**Summary:** The aim of this work was to study the impact of breast cancer, within its implications on the population of Banat Region of Romania, the region comprising the counties of Timis and Caras-Severin. We followed the incidence of breast cancer between 01.01.2005-31.12.2009, a period of 5 years. The study involved the disaggregation by age, stage of disease (curable/ advanced) and the possibility of breast reconstruction.

**Keywords:** breast cancer, statistics, Banat Region, Romania

## INTRODUCTION

Research of medicine history in Romania clearly put out an indisputable trend, especially in medical practice. This development can be found as a genuine change in the manner of practicing medicine concept. Substantiation of new concepts is the premise of clinical research findings and integrate research results into daily practice. The credibility of clinical research studies and evaluation derived from the clarity of objectives, rigor of the method and usefulness of results in medical practice. In this respect, it is necessary to reach a statistical treatment, a evidence-basedmedicine, and discovery of “statistical laws” controlling the people health and processes involving medical intervention.

In Romania, breast cancer is the most commonly diagnosed cancer and leading cause of death by malignancy in women. Each year are recorded 4,400 new cases, 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 lately.

The objective of the project has resulted in the issue of breast cancer distribution in female population of the Banat region. This is a descriptive study containing conclusions, analytical judgements about possible relationships between various studied factors.

## MATERIALS AND METHODS:

Our research was based on a retrospective analysis of breast carcinomas diagnosed in Banat Region of Romania, the region that comprises the counties of Caras-Severin 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 curable or incurable stages, the total number of cancers reported in these counties, breast cancer incidence and prevalence in this region and the possibility of postmastectomy breast reconstruction. Data were obtained via the cancer registries in archive of Timisoara Oncology Institute, in consultation with Directorate of Public Health Department Caras-Severin. 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

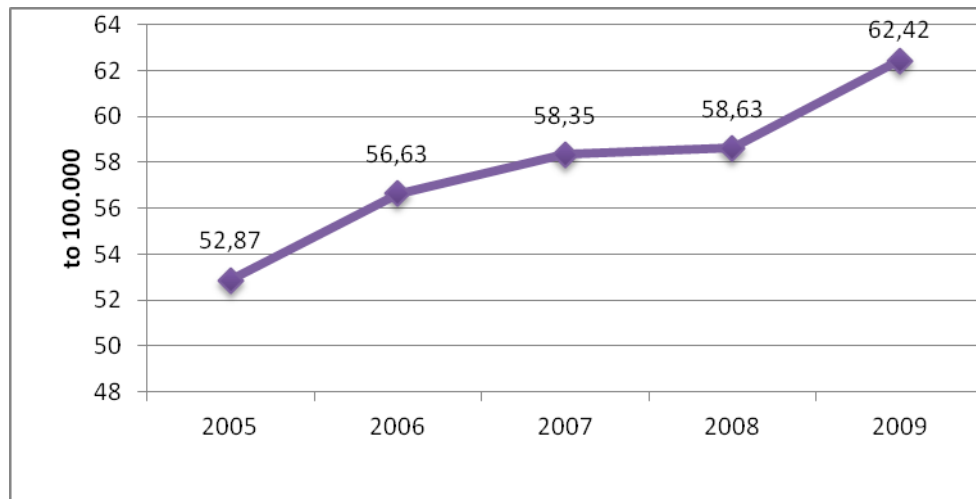
Our study reffers to a total number of 1394 cases of breast cancer in the Banat Region, a number resulted from the summation of all cancer cases in the two involved counties, 909 cases in Timis county and 485 cases in the county of Caras-Severin.

Year/Breast cancer cases	Timis	Caras-Severin	Banat Region
2005	191	90	<b>281</b>
2006	115	96	<b>211</b>
2007	172	98	<b>270</b>
2008	211	98	<b>309</b>
2009	220	103	<b>323</b>
<b>TOTAL</b>	<b>909</b>	<b>485</b>	<b>1,394</b>

**Table 1.** Number of total breast cancer cases, Banat Region, Timis and Caras Severin Counties comparative,in the studied period(2005-2009)

	New recorded breast cancer cases	Total female population in Caras-Severin County	Incidence (breast cancer cases to 100,000 women)
2005	90	170220	52,87
2006	96	169516	56,63
2007	98	167925	58,35
2008	98	167125	58,63
2009	103	164999	62,42

**Table 2.** Incidence of breast cancer in Caras-Severin County, 2005-2009



**Fig. 1.** Incidence of breast cancer in Caras-Severin County, 2005-2009

Analyzing the number of new cases of breast cancer occurring in parallel with population dynamics of Caras-Severin county, we can draw some conclusions. While the number of inhabitants of the county is clearly in decline, from 170,220 women in 2005 to 164,999 women in

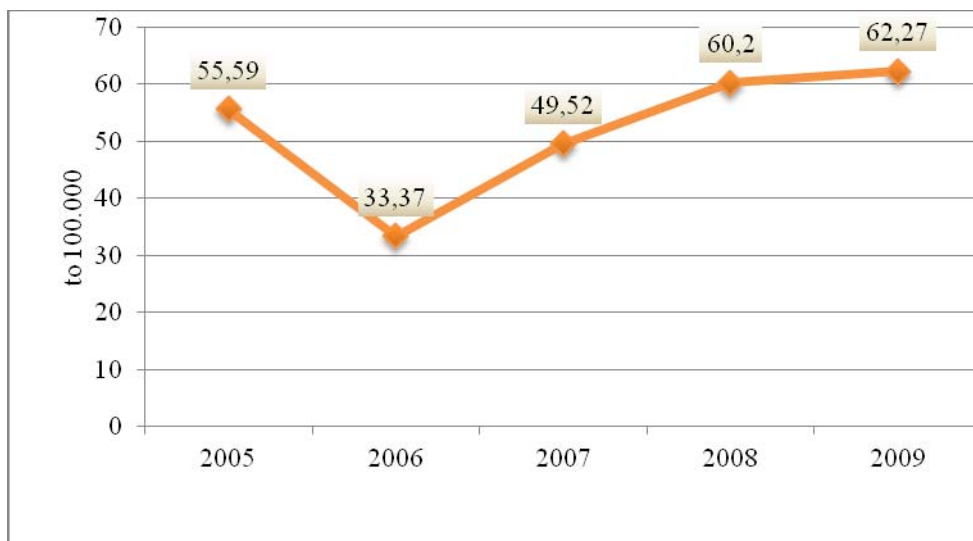
2009, the number of cases of CM is increasing, inversely proportional to the population. Thus, the incidence of CM on County CS value increases from 52.87 cases per 100,000 women in 2005 and remains somewhat constant in 2007-2008, to 62.42 cases per 100,000 women in 2009.

	New recorded breast cancer cases	Total female population in Timis County	Incidence (breast cancer cases to 100,000 women)
2005	191	343565	55,59
2006	115	344553	33,37
2007	172	347279	49,52
2008	211	350497	60,20
2009	220	353252	62,27

**Table 3.** Incidence of breast cancer in Timis County, 2005-2009

In Timis County, the number of inhabitants is increasing, from 343,565 women in 2005 to 353,252

women in 2009, and the number of cases of breast cancer is also growing in proportion to the population.



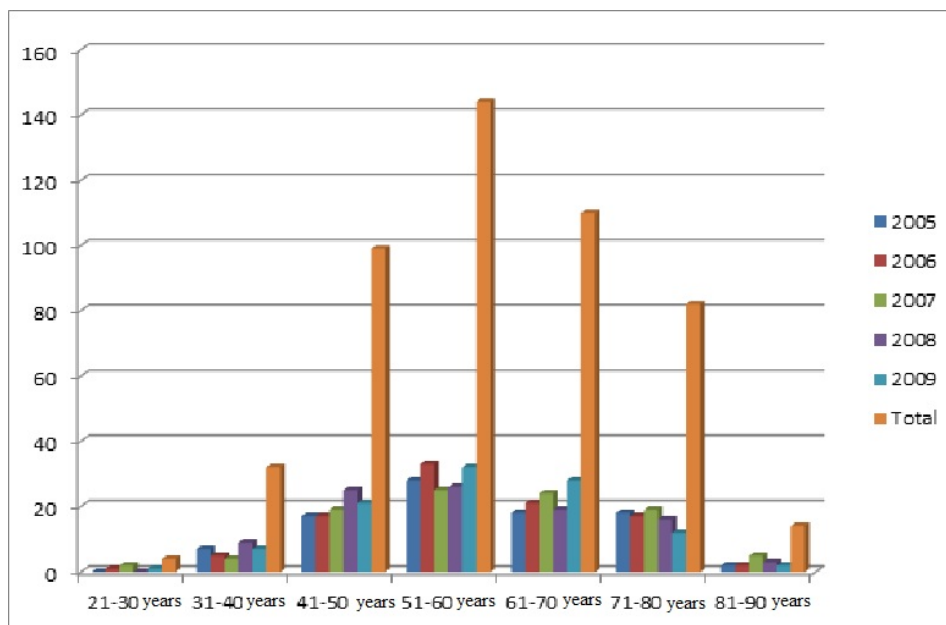
**Fig. 2.** Incidence of breast cancer in Timis County, 2005-2009

It shows, however, a hiatus of breast cancer incidence in Timis county, in 2006, when the number of cases was only 115, with an annual incidence of 33.37 cases per 100,000 women. After this year, the incidence

is increasing permanent and constant, from 49.52 cases per 100,000 women in 2007, a figure of 62.27 cases per 100,000 women in 2009.

Year/Age group	21-30 years	31-40 years	41-50 years	51-60 years	61-70 years	71-80 years	81-90 years	Total
2005	0	7	17	28	18	18	2	
2006	1	5	17	33	21	17	2	
2007	2	4	19	25	24	19	5	
2008	0	9	25	26	19	16	3	
2009	1	7	21	32	28	12	2	
Total	4	32	99	144	110	82	14	485

**Table 4.** Number of breast cancer cases in Caras-Severin County, by studied years and age groups



**Fig. 3.** Distribution by years of breast cancer cases in Caras Severin County, 2005-2009



From the above table and chart it can be noted an incidence peak of breast cancer, in CS County, in the age decade 51-60 years, with a total of 144 cases, in excess of other age groups. Age decades surrounding this exception, that is 41-50 years and 61-70 years, remain somewhat consistent values of approximately 100 new cases registered. Values continue to fall gradually until

the group over 81 years, who have accumulated a total of only 14 cases.

In Timis County, the average age was 59.47 years in the studied group. The minimum age was 25 years and a maximum of 92 years, most breast cancer cases were registered in the age range 50-59 years.

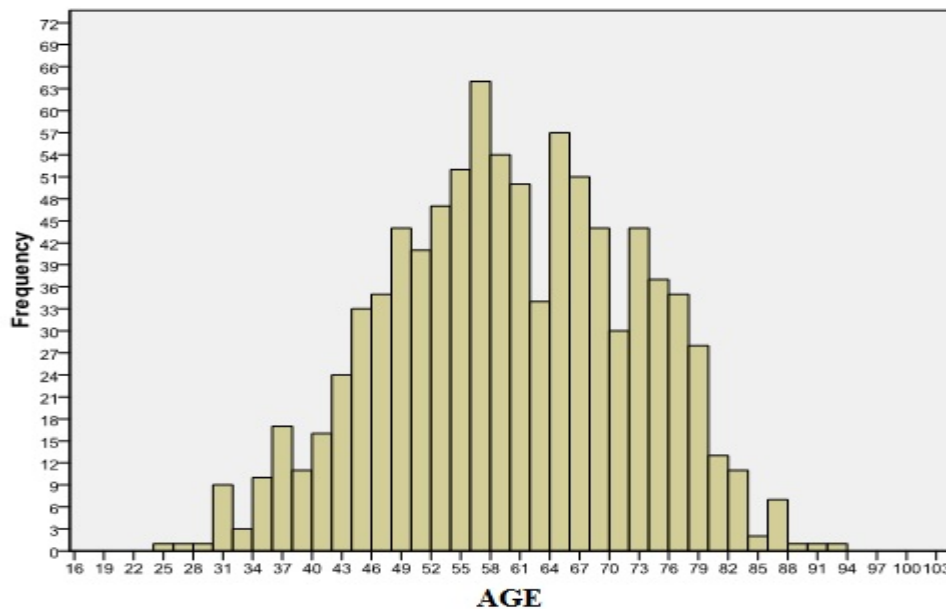


Fig. 4. Repartition of breast cancer cases, by age groups, in Timis County

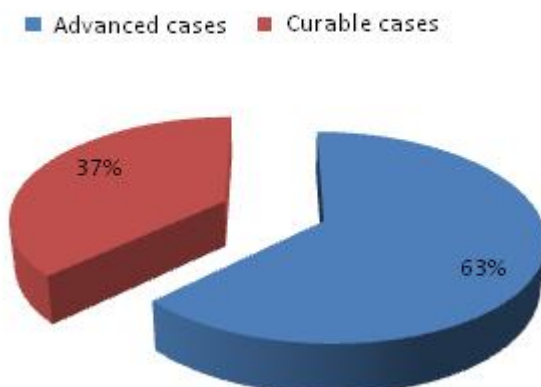
Year/Advanced, Curable stage of disease	Curable stage	Advanced stage	Total
2005	36	54	90
2006	26	70	96
2007	45	53	98
2008	38	60	98
2009	35	68	103
<b>Total</b>	<b>180</b>	<b>305</b>	<b>485</b>

Table 5. Number of curable vs. advanced cases, Caras Severin County, 2005-2009

Analyzing the proportion of curable breast cancer cases of of all cases emerging in Caras-Severin, we conclude that it is aligned parallel to the curve of oscillation of cancer incidence. Thus, we have a number of 35 cases in 2005 and 2009, but with a maximum of 45 cases in 2007 (45.91%). However, if we report these

cases to the total number of cancers by years, we observe that the year 2009, for example, with 35 cases of breast cancer in curable stage, reported to total of 103 cases, represents a rate of 33.98%, much lower than in 2007, when the percentage of cases curable stage was almost half, respectively 45.91%.

## Amount of curable/advanced cases

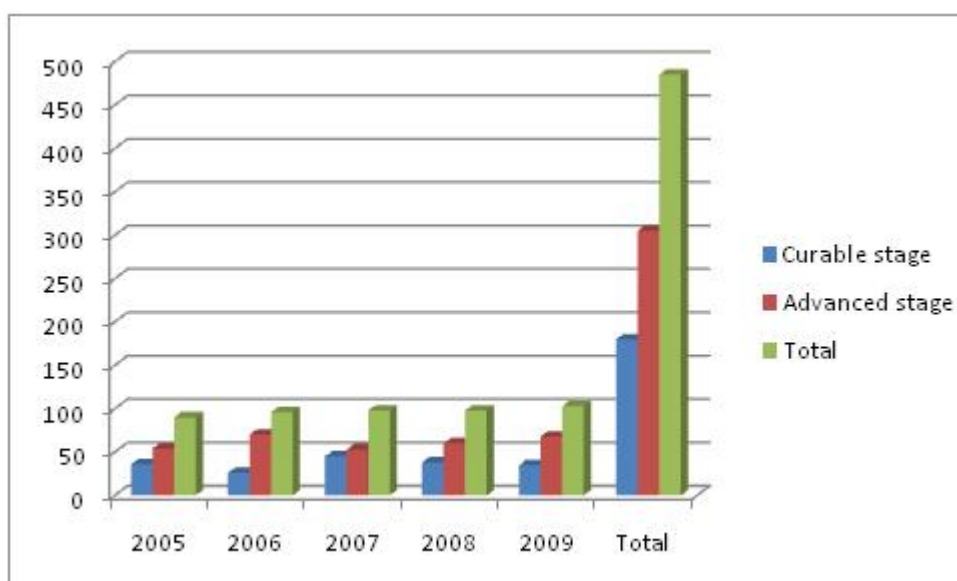


**Fig. 5.** Percentage of curable vs. advanced cases, Caras Severin County, 2005-2009

From the figure above we deduce the global proportion of curable breast cancer cases, that is 37%,

versus the advanced cases, that is 63%.

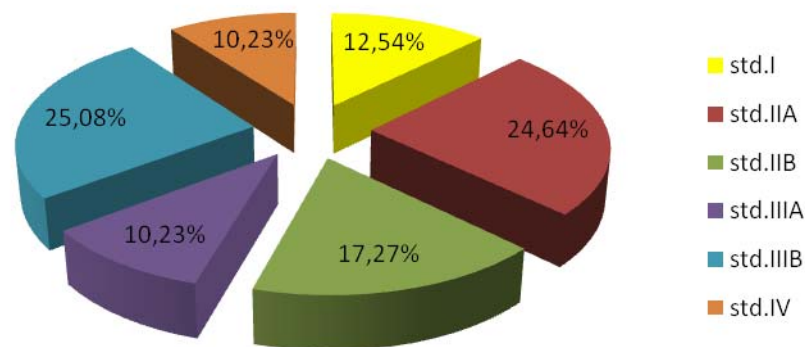
From the figure above, we note that the largest



**Fig. 6.** Yearly report of curable vs. advanced stage cases of breast cancer, Caras Severin County, 2005-2009

number of advanced breast cancer cases was in year 2006, with a total 70 cases, compared to the following year, 2007, when they were diagnosed only 53 cases of

advanced breast cancer. The number of advanced cases tends to increase again in 2009, when it reached 68 cases.



**Fig.7.** Percentage distribution of cases according to tumor stage in Timis County, 2005-2009

The figure above shows the distribution of cases according to postoperative staging pT in Timis County, in time period 2005-2009. Stage II tumors are best represented (41.9%), followed by stage III (35%). Cases in stage I tumors appeared in only 12.54% of cases, demonstrating the deficiency in early detection of breast cancer cases.

## CONCLUSIONS

By analyzing the tables and figures above, the conclusion of our study is almost self-evident. With a percentage of only 37 % curable breast cancer in Caras Severin and 52% curable breast cancer in Timis County, the Banat Region still faces acute public health problems. We realize that counties like Caras-Severin 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. In Romania in general and the Banat Region in particular, breast cancer still has very high rates, with lower rates of cure. The differences between counties can be partially explained by differences in cancer risk factors, lifestyle, environmental factors, including tobacco, alcohol, diet and pollution, and differences in screening, diagnosis and treatment timing. Many differences are rooted in social and economic inequalities. Thus, we hope that the implementation of current knowledge in cancer prevention, early diagnosis and proper treatment will reduce the Banat Region disadvantage in the current burden of breast cancer.