Epidemiological Study of Cervix Cancer in Bihor County between 2003 – 2012

Elisabeta Pătcaș¹, Dana Rahotă², Daniela Berdea², Adela Pătcaș³

1) Clinical Hospital ,,Gavril Curteanu,, Radiotherapy Department Oradea; 2) University of Oradea, Faculty of Medicine and Pharmacy; 3) University of Medicine and Pharmacy ,,Iuliu Hațieganu ,, Cluj Napoca

Introduction

Cervix cancer is an important public health issue because of its incidence and mortality worldwide, especially in our country (1). The high incidence reveals the differences between the social and cultural attitude and also the introduction of national screening programmes combined with HPV vaccination (2,3).

According to the International Cancer Research Agency, our country remains on top in Europe with the highest incidence and mortality rate of cervix cancer, with a 6.3 times higher average than in other countries of the European Union (4). A decrease of this illness in economically developed countries as against the poorer such as Africa, South America and South East Europe has been demonstrated, where the incidence is at least twice the average (5).

Annually, over 500,000 new cases of cervix cancer are reported worldwide, being the second malignancy in women after breast cancer (6).

Patients and methods

We studied the data from oncological records in our county in the Cancer Territorial Registry and also from the Public Health Authority, Bihor between 2003 and 2012. The statistical analysis was performed with the EPIINFO version 6.0 application of CDC (Center of Disease and Control prevention), adapted to medical processing. We used standard deviation, significant statistical tests with Student method (t test) and χ². For the survival rate we used Odds Ratio(OR) and the Kaplan- Maier method at the Statistical Department.
Results

In the studied period of time 19,395 new cases of cancer in our county were registered, with an incidence of 32,622 at 100,000 inhabitants and a peak in 2008 and 2010 (36,129 and 36,047) and the lowest value in 2012 (277,51) (p<0,001).

In women the cancer incidence was 2.4 times lower than in men (19,662 vs 46,311 at 100,000 inhabitants). (p<0.001) The highest incidence in women occurred in 2010 (22,3,91) and the lowest in 2011 (16,066), whereas in men there was a peak in 2008 (5,217) and the lowest rate in 2012 (39,999).

From the total of 6005 new cases recorded in women between 2003-2012, cervix cancer represents 20.5 %, taking second place after breast cancer (30.5%) (fig. 1).

In this period, the distribution of cervix cancer among the total cancer cases varied between 16.4% (in 2002) and 26.0 % (in 2003), with a decreasing sinusoidal evolution (fig. 2).

According to the environment repartition, the incidence of cervix cancer was higher in urban patients (59.84 at 100,000 inhabitants) vs rural patients (42.63 at 100,000 inhabitants) (p=0.001).

The maximum value was recorded in 2003 (94.53 ) and the minimum in 2012 (41.32) (fig. 3).

As for the age repartition, we observed that almost 60% of the cases were between 40-60 years (59.2%), over 60 years 25.9% and under 40 years it was 14.9%. The lowest percentage of cases was under 30 years with 2.2% (fig. 4).

The multivariate analysis by age groups in the studied period of time shows that: in 2003 the maximum incidence was between 40-60 years , and in 2012 it was over 60 years (fig. 5).
With regard to the stages of the disease, we detected mostly stage 0 cases (31.0%) followed by stage I (22.7%), stage II (20.0%), stage III (15.6%) and stage IV (10.6%).

We observed that stage 0 had the highest incidence in 2011 (58.7%), stage I in 2009 (36.8%), stage II in 2007 (30.0%), stage III in 2012 (27.2%) and stage IV also in 2012 (19.8%) (fig. 6).

The lethality index of cervix cancer decreased from 17.3% in 2003 to 5.4% in 2010 with an average of 11.4% of all cancer deaths in women.

The mortality of cervix cancer according to the environment was 17.48 at 100,000 inhabitants in urban areas, and 17.40 at 100,000 inhabitants in rural areas, (p=0.983), with a peak in 2003 in urban areas of 30.08. The lowest value in 2010 was 4.97 (fig. 7).

Discussion

We observed that in our county that cervix cancer incidence has decreased over the last period but still remains in second place after breast cancer.

Our study shows that the incidence was higher in urban areas, presenting a peak in 2003, maybe due to the opportunistic screening initiated in Bihor.

The most affected patients were active women, aged between 40 to 60 years and the least affected were under 30 years.

An interesting finding showed that the majority of cases were in the early stages, the only possible explanations being due to screening program development, the rise of mass media awareness of cervical cancer and the gynaecologists’ contribution through surgery In our study the average mortality does not differ between the urban and rural environment.

Conclusions

In the Bihor county the incidence and mortality of cervix cancer remain below the national average with a tendency to decrease over the years. Surprisingly, we found that most of the cases were in the early stages, which is contrary also to the national average. These results could be due to the multidisciplinary cooperation, screening programs, awareness of women regarding this malignancy and perhaps also due to HPV vaccination in Bihor.

References


Author’s disclosures of potential conflicts of interest. The authors indicated no potential conflicts of interest.