EPIDEMIOLOGIC FACTORS, RISK FACTORS AND SCREENING ELEMENTS IN THE CERVICAL NEOPLASIA

MARIANA BRATU[1], FLORENTINA PRICOP[2], OVIDIU TOMA[3], DRAGOS CRAUCIUC[2], EDUARD CRAUCIUC[2*]

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Abstract. Aim. The present study channels and materializes all the efforts made with the purpose of emphasizing a series of correlations between the statistical data and the elements of epidemiology, in order to obtain a profile of the patient with cervical neoplasia, underlining the risk factors that are frequently met in this condition. **Material and methods**. Between 2001-2009 there were 3472 consults for cervical neoplasia suspicion in the Section of Obstetrics and Gynecology of „Sf. Apostol Andrei" Emergency Hospital in Galaţi. We specifically investigated 1248 of them (35,9%), and 415 cases presented a changed PAP smear (12,0%). Most cases considered for the study had cytologic smears collected and, where there was an indication, we performed biopsies of the cervix. The cytologic smears were coloured using the Giemsa technique or the method with hematoxylin-eosin (H-E). **Results.** Based on the cases studied we noticed: an increasing tendency of this class of diseases; sexuality under 20 in 76,9% of the cases; 2 or more partners in 42,4% of the cases, 8/12 pregnancies occured in youth (16-20 years old). **Conclusion**. The continuously ascending mortality of the cervical cancer in our country justifies completely the fact that all the efforts target the primary and secondary prophilaxis of the disease and emphasizes the necessity to act immediately towards the population by implementing a screening programme that is able to reduce the impact of this neoplasia.

INTRODUCTION

At the beginning of the twenty-first century cancer still continues to be one of the most serious diseases humankind has had to deal with. The incidence of cancer has increased a lot lately and it is now situated, together with the cardiovasculary diseases and accidents, among the top three places of mortality in all the countries in the world, with no exceptions.

The research that has been done lately brought elements that clarified some aspects of the cancer pathogeny and revealed the complexity of the molecular mechanisms that govern cell proliferation and differentiation.

The cervical neoplasia is a serious chronic disease, which is very important from the medical and social point of view, with a severe evolution when it is detected in advanced stages, being one of the most complex and difficult problems of the human pathology.

The activity of early detecting the cervical carcinoma is not very well organized yet, that is why presently most cases come to the doctor in relatively advanced stages, which need complex interventions that usually have unsatisfactory results.

The very rich casuistry that I met in practice ever since I started working in the Obstetrics and Gynecology Section of the Emergency Hospital „Sf. Apostol Andrei" in Galaţi, made me approach this theme that is of interest for an important segment of the world's population in general and of Romania's population in special, with deep economical and social implications that are caused by the important funds that are necessary for treating each case in particular.

The mortality of the cervical cancer in our country is continuously increasing and this totally justifies the fact that we direct all our efforts towards the primary and secondary prophylaxis of the disease and emphasizes the need of an urgent intervention in the population, by implementing a screening programme that will be able to reduce the impact of this neoplasia. Any person who is interested in the social aspects of the medicine will find a challenge in thinking and applying a research model with the purpose of finding out what is the situation of cervical cancer in the rural or urban area.

MATERIAL AND METHODS

In the period 2001-2009 there were 3472 consults for cervical neoplasia suspicion in the Obstetrics and Gynecology Section of the Emergency Hospital „Sf. Apostol Andrei" in Galaţi, but we only investigated specifically 1248 women (35,9%), 415 of which had changed PAP smears (12,0%).

The methods of diagnosis in the cervical cancer consisted of:

– Medical history. Incipient cancer does not show any symptoms; when it appears on the background of a benign cervical lesion it can also be accompanied by common leucorrhea that is somewhat more abundant. The symptoms become obvious only in the more advanced forms: purulent leucorrhea that smells (it accompanies big lesions that are

exofitic and overinfected); the hemorrhage is intermitent at the beginning, of little intensity, but it is persistent and it defies any rules, the hemorrhage at contact is maybe the only symptom that suggests a cervical neoplasia (especially in menopause); abundent hemorrage in big quantities that persists for a long time usually accompanies advanced cervical cancers; pain is a late symptom in cervical cancer and it begins when the cancer invades the parametres and links to the nervous terminations that cross that area (especially the back area of the parametres).

– Gynecologic examination consists of applying the valves, tact combined with abdomen palpation and rectal tact. This complex examination leads us to the diagnosis in case there are some obvious lesions on the cervix, when an elementary biopsy technique represents a simple formality.

Most of the cases we considered for study had cytologic smears collected, and where there was an indication made we made biopsies from the cervix. The cytologic smears were coloured by using the Giemsa technique or by the hematoxylin-eosin (H-E) method. The cytologic smear studies the changes that have a hormone nature or the ones with an atypic neoplasic nature of the cells that are taken off the exocervix or from the cervical chanal. The cytological examination was „revolutionary" for the process of detection and early diagnosis of the cervical cancer.
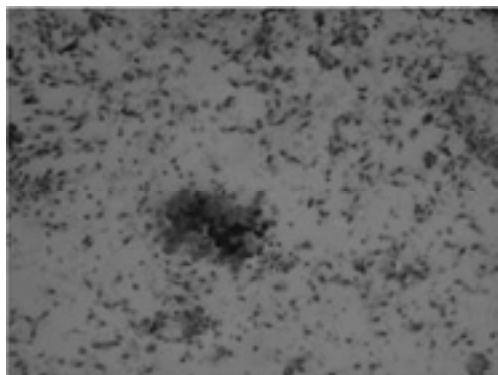

Figure 1. Cytologic smear
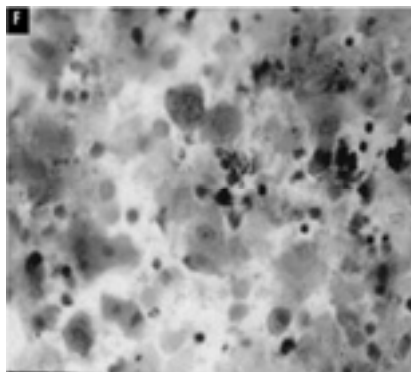(www.histopatologie.blogspot.com/2009)

Figure 2. Pap smear (detail)
(www.colposcopie.ro/despre.html)

When interpreting and diagnosing the cytologic smears we used the Babeş-Papanicolau Nomenclature, and also the TBS system (The Bethesda System).

Statistic processing. The data were registered in a form that allows them to be recorded in certain categories; a variable will not be recorded under many forms; data grouping will be done on variable categories. The data were centralized in EXCEL and SPSS data bases and were processed with the statistic functions that are considered appropriate.

The derived indicators have the role of highlighting the qualitative aspects of an ensemble and target the relationship between different parts of a group of patients or different characteristics, interdependence connections between variables. We used the following derived indicators: indicators of the average value: the simple arithmetic mean, the median, the module; indicators of dispersion: standard deviation, variation. Tests of significance: the test t-Student; the test $\chi2$; the relative risk (RR); the correlation coefficient (Pearson).

RESULTS AND DISCUSSIONS

The monitoring of the cases with cervical neoplasia between 2001–2009 indicates an increasing tendency for this class of illnesses (y = 4,22 + 8,40 x), so we estimate that there will be about 88 new cases for the year 2010 (fig. 3).
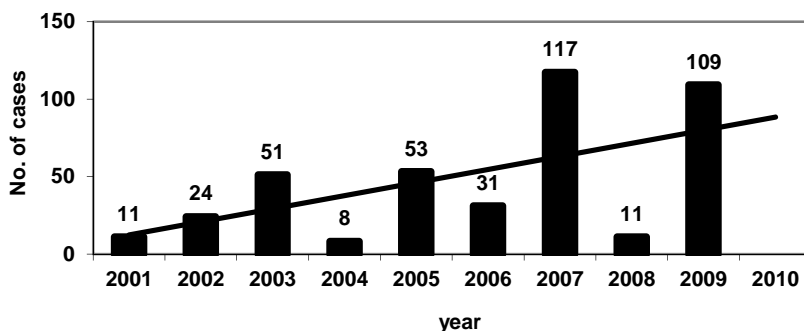
Figure 3. The Distribution of cervical neoplasia on years of study

The average age of the patients was $38,93 \pm 12,61$ years old, with variations between 17 and 85 years old, most cases being in the age group 31-40 years old (27,7%).

When we compared the distribution of the patients on group ages depending on the marital status, we noticed a significant percentage (21,2%) of unmarried women up to the age of 40 years old (p<0,001).

The distribution of cases depending on their studies highlighted a frequency of 64,6% with high school studies and a percentage of 34,5% workers.

Considering smoking and alcohol consumption as the main risk factors for any kind of medical condition, their association induces a relative risk that is 13 times higher for the patients with cervical neoplasia (RR=13,10; IC95: $6,99 \div 24,56$).

The patients in the study lot declared in a percentage of 74% that the moment when they began the sexual life was around 16-20 years old. We noticed that 2,4% of the patients have not started their sexual life, 2,9% of the patients began it under 15 years old and 1% had their sexual life beginning at 26 or older (fig.4).
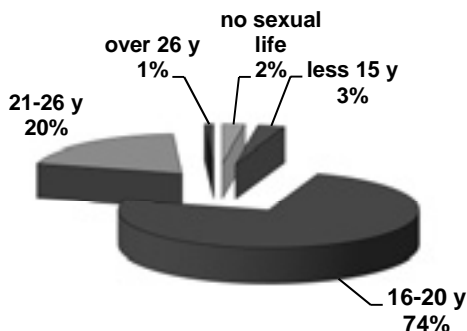

Figure 4. The distribution of cases depending on the beginning of the sexual life

The patients declared that 55,1% had only one partner in their sex life, and 29,2% had 2 partners. A relatively small percentage of the patients in these cases had 3 or more partners (8,3%). We also noticed that the percentage of the cases without partners in their sex life was 2,4%. (fig. 5).
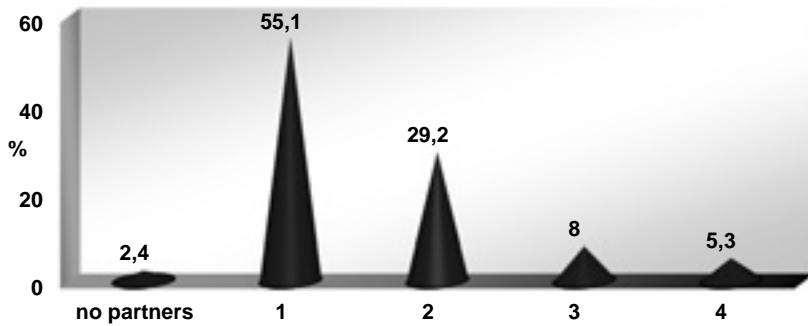
Figure 5. The Distribution of cases depending on the number of sexual partners

The number of sexual intercourses/ week varied from 1 to 7, with the highest frequence of twice / week (49,9%). We noticed that a percentage of 15,9% of the patients did not have sexual intercourse (fig. 6).
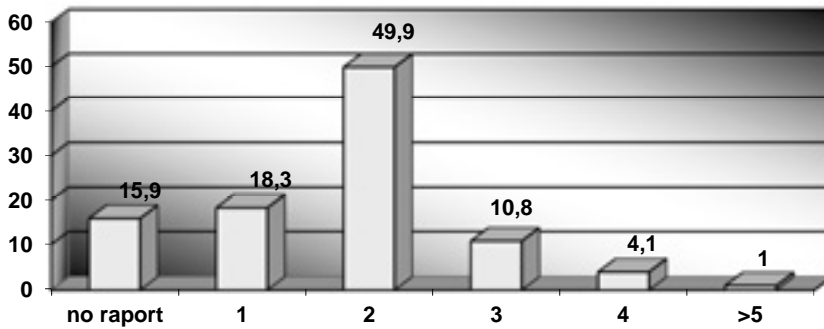

Figure 6. The Distribution of cases depending on the number of sexual intercourses per week

We found sexually transmitted infections only in 1,2% of the patients.

In conclusion, after the statistical processing of the epidemiologic characteristics, we can sketch the profile of the patient with cervical neoplasia as follows :

Table 1. The profile of the patient with cervical neoplasia

Epidemiologic characteristic	Profile	%
Age group	**≤ 40 years old**	57,1
Marital status	**married**	74,0
Studies	**High school**	64,6
Occupation/job	**worker**	34,5
Life style	**smoking**	31,6
Beginning of sexual life	**16-20 years old**	74,0

Number of partners	1-2	84,3
Number of sexual intercourse/ week	2	49,9

Heredo-collateral antecedents: cardiovascular diseases (BCV) were frequently met in the patients with cervical neoplasia (23,4%), with a predictive positive value of 66% for the age group over 40.

Personal physiolog antecedents:
- the first menstruation appeared most frequently at the age of 14 for 52% of the patients;
- the interval of the menstrual cycle is 28 days (49,2%);
- irregular menstrual cycles met in 8% of the cases;
- pain for 29,2% of the patients;
- most declarations obtained from the questionnaire sheet the menstrual cycle was normal quantitatively speaking (55,7%).

Based on the cases studied, the total number of pregnancies that was recorded was 623, which represents 1,5 pregnancies per patient. We recorded 12 spontaneous abortions (1,9% of the total number of pregnancies) and 256 abortions on request (41,1% of the total number of pregnancies).

Oral contraceptives were the most frequently used (22,9%), within a time span of 6 months to 3 years. We proved themore frequent use of contraceptive methods for the patients under 40 years old (p<0,001), married (p=0,017).

The gynecologic antecedents led to 2 subtotal hysterectomies (0,5%) and there were 28% cases of bleeding at contact.

Based on the cases studied, the pathologic antecedents have the following distribution depending on their frequency: obesity - 12%; HTA - 9,6%; sugar diabetes - 3,4%; cardiopathy - 3,1; trombo-embolies - 0,7.

CONCLUSIONS

Cervical neoplasia is a serious chronic disease that is very important from the medical and social point of view, with a severe evolution when it is detected in the advanced stages, being one of the most complex and difficult problems of the feminine pathology.

The cases studied showed: sexuality under 20 years old in a percentage of 76,9%; 2 or more partners in a percentage of 42,4%.

The present study lot presented 8 pregnancies for the 12 women under 20 years old, but this distribution did not show significant differences from the statistic point of view ($\chi2$= 2,16; GL=1; p=0,141).

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1 – Emergency Hospital „Sf. Apostol Andrei" Galaţi
2 - University of Medicine and Pharmacy "Gr.T.Popa" Iasi
3 - "Alexandru Ioan Cuza" University, Iasi, Romania

* crauciuc@yahoo.com