

Frequency of Precancerous Changes and Cervical Cancer Recorded in Three Health Centres in Tuzla Canton in Period 2010-2011

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ABSTRACT

Cervical cancer is the second most common cancer in the world and the leading cause of death. Frequency and mortality are significantly reduced thanks to cytological Papanicolau test (PAP). Regular PAP test can reduce approximately 80% of cases of this cancer. **Aim of the study:** to examine frequency of cervical cancer and changes of cervix, the age of risk for the changes and effect of frequency of PAP test. **Materials and methods:** 3383 PAP (cytological) findings have been retrospectively analysed in three Health Centres of Tuzla Canton: Tuzla, Srebrenik and Sapna. During 2010 and 2011 protocols of Health Centers have been analyzed. **Results:** Analysis of 3383 smears detected the following: abnormal PAP tests in 20.8% (705) and without abnormalities in 79.1% (2678). Normal findings in 9.1% (311), inflammatory changes in 69.6% (2357), ASCUS in 12.9% (438), ASC-H in 0.3% (11), LSIL in 5.4% (183), HSIL in 1.4% (49) and Squamous cell carcinoma in 0.7% (24). Cervical cancer has mostly been found in women from Srebrenik 1.1% (15) and least in women from Tuzla 0.3%(4).The highest number of abnormal findings (ASCUS, ASC-H, LSIL, H SIL and Cc) was also found in women from Srebrenik 39.5% (279). The average age of the examinees with the cancer was 41.7. In 62.5% (15) of women PAP test was performed for the first time and they were diagnosed with cervical cancer. Cervical cancer hasn't been found in women who had PAP test once a year or more. **Conclusion:** Women with the abnormal findings in their first PAP test and should be persuaded to accept the treatment in order to prevent development of cervical cancer.

Key words: cervical cancer, PAP test, regular examination.

1. INTRODUCTION

Cervical cancer is the second most common cancer in women around the world, right after the breast cancer and is leading cause of death (1). The frequency and mortality are significantly reduced thanks to cytological PAP test in well organized screening programme of detection of preinvasive changes. At the moment, it presents the most popular method in the world, not only as a diagnostic test for patients but for its possibility of routine screening in asymptomatic women as well as for its acceptable price (2, 3). Regular gynecological examination and PAP test can prevent up to 80% of cases of this type of cancer (4).

Recently, it is clearly noticed that the incidence and morbidity of the disease are increasing, especially in young women. Reasons for this increase are not well known, but it is believed that the key reasons are more free sexual behavior and higher frequency of sexually transmitted diseases, especially those caused by Human papilloma virus (HPV), and lack of information about the importance of PAP test among women. Bosnia and Herzegovina

doesn't have the unique register of malign diseases and the number of newly detected cases of cervical cancer depends on the size of examined city or region. In period from 1993 to 2006 in Tuzla Canton 27,11% of all the women with diagnosed cervical cancer were younger than 30. According to the last study for Eastern Europe, frequency rate of cervical cancer in B&H is 26,6/100 000 and frequency data about the changes that precede cervical cancer don't exist. In Croatia, for example, according to the report of Institute for public health, the frequency of cervical cancer was 15,6/100 000 in 2008, which is significantly less in relation to B&H (6).

2. THE AIM OF THE WORK

The aim of the work is to examine frequency of cervical cancer and changes that precede cervical cancer in three Health Centres in Tuzla Canton, the age of risk when these changes occur and the effect that the frequency of taking PAP test have on the abnormal findings.

3. MATERIAL AND METHODS

In our research, 3383 PAP (cytological) findings have been retrospectively analyzed in three Health Centres of Tuzla Canton: Health Center Tuzla – 1247, Health Center Srebrenik – 1296 and Health Center Sapna – 840. The findings were taken from the protocols of Health Centers and analyzed in 2010 and 2011. PAP test findings from Health Center Tuzla and Srebrenik were examined by 2 cytologists in HC Tuzla and findings from HC Sapna were examined at UCC Tuzla by different pathologists. The age of the examinees was between 19 and 60. Cervical smears were taken with wooden spatula and endocervical brushes, put on glass and fixed with citofix. They were colored by Papanicolau method. Bethesda classification 2001 was used for reading.

4. RESULTS

Analysis of 3383 smears detected the following: abnormal PAP tests in 20,8% (705) and without abnormalities in 79.1% (2678). Normal findings in 9.1% (311), inflammatory changes in 69.6% (2357), ASCUS in 12.9% (438), ASC-H in 0.3% (11), LSIL in 5.4% (183), HSIL in 1.4% (49) and Squamous cell carcinoma in 0.7% (24). Cervical cancer has mostly been found in women from Srebrenik 1,1% (15) and least in women from Tuzla 0.3%(4). The highest number of abnormal findings (ASCUS, ASC-H, LSIL, H SIL and Cervical cancer was also found in women from Srebrenik 39.5%(279), then Sapna 31.3%(221) and Tuzla 29.0%(205) (Table 1).

Statistically processed data taken in these 3 Health Centers showed increased frequency of cervical cancer and abnormal changes in Health Center Srebrenik and Sapna in relation to Health Center Tuzla $p < 0.05$ while there wasn't statistically significant difference between HC Srebrenik and HC Sapna. The average age of the examinees with the abnormal changes on cervix was 42,8 and of those with cancer was 41.7 (Table 2).

Examining the frequency of examinations in women with cervical cancer, it has been found that in 62.5%(15) PAP test was performed for the first time, in 25.0%(6) five years ago and in 12.5%(3) 3 years ago. Cervical cancers haven't been found in women who had examinations once a year or more. High grade of cervical lesions HSIL have been found in 36.7%(18) of women on their first PAP test but also in those who had examination once a year in 16,3%(8) (Table 3).

5. DISCUSSION

Finland, the Netherlands and Denmark have the best cervical cancer screening programme and they have been conducting it since 1963 in the population of women aged 30 to 60 with the 3-5 years time distance in screening and in almost 100% of the population (7). Bosnia and Herzegovina doesn't have this screening programme. Tuzla Canton has well organized opportunistic screening but it doesn't have data about abnormal PAP findings. According to data in 2003, Croatia had 9.7%

PAP tests 2010-2011.	Health Center Tuzla		Health Center Srebrenik		Health Center Sapna		Total	
Number of examinations	1247		1296		840		3383	
Normal finding	129	10.3%	106	8.1%	81	9.6%	311	9.1%
Inflammatory changes	913	73.2%	906	69.9%	538	64.0%	2357	69.6%
ASCUS	131	10.5%	147	11.3%	160	19.0%	438	12.9%
ASC-H	4	0.3%	7	0.5%	0	0.0%	11	0.3%
Low grade squamous intraepithelial lesions (L SIL)	56	4.4%	84	6.4%	43	5.1%	183	5.4%
High grade squamous intraepithelial lesions (HSIL)	10	0.8%	26	2.0%	13	1.5%	49	1.4%
Squamous cell carcinoma	4	0.3%	15	1.1%	5	0.5%	24	0.7%

Table 1. Results of PAP tests analysis performed in three Health Centers of Tuzla Canton in 2010 and 2011

The age of the examinees	Health Center Tuzla	Health Center Srebrenik	Health Center Sapna	The average age
Normal finding	38.1	40.4	39.8	39.4
Inflammatory changes	41.3	44.5	46.2	44.0
ASCUS+ASC-H	40.7	37.8	39.4	39.3
Low grade squamous intraepithelial lesions (L SIL)	39.5	45.3	40.3	41.7
High grade squamous intraepithelial lesions (HSIL)	47.2	41.9	43.1	44.0
Squamous cell carcinoma	41.2	42.3	41.6	41.7

Table 2. The age of women whose PAP tests were analysed in three Health Centers of Tuzla Canton

Frequency of examinations with abnormal PAP test	ASCUS (n-437)	ASC-H (n-11)	LSIL (n-183)	HSIL (n-49)	Squamous cell carcinoma (n-24)
1st time PAP	198 45.3%	2 18.1%	62 33.8%	18 36.7%	15 62.5%
Once a year	126 28.8%	3 27.2%	43 23.4%	8 16.3%	0 0%
Few times a year	72 16.4%	4 36.3%	40 21.8%	2 4.0%	0 0%
Once in 3 years	37 8.4%	2 18.1%	15 8.9%	7 14.2%	3 12.5%
Once in 5 years	4 0.9%	0 0.0%	23 12.5%	14 28.5%	6 25.0%

Table 3. The frequency of examinations of women with abnormal PAP test in three Health Centers of Tuzla Canton

of abnormal cytological findings (5.15% CIN I, 0,67% CIN II, 0.19% CIN III and 0.08% planocellulare carcinoma) and 24,0% of ASCUS changes (8,9). Analyzing PAP smears taken in 3 Health Centers of Tuzla Canton (Srebrenik, Sapna and Tuzla) the abnormal cytological findings have been found in 20.8% (705) of women: ASCUS in 13.1% and abnormal lesions in 7.4%(256): 5.4% LSIL, 1.5% HSIL and 0.7% of planocellulare carcinoma. The study of frequency of precancerous lesions of married women aged 15 to 49 conducted in India, showed 7% of cervical dysplasia (10). Women examined in HC Srebrenik had the biggest number of cervical cancer found in 1.1% (15) and also the biggest number of precancerous lesions in 39.5%(279) with statistically significant difference in relation to HC Tuzla. Boston studies show development of 93 HGSIL and adenocarcinoma in situ in 1072 women who had ASCUS and LSIL (11). It is considered that ASCUS is in 10-20% LSIL and in 3-5% is histologically HSIL (12,13). Women with the

abnormal cytological findings were mostly between 30 and 39 years of age (14). In our study, the average age of the examinees with the abnormal findings was 42.8. Other authors also found the biggest number of the abnormal lesions in the age between 30 and 34 and the frequency of the invasive carcinoma increases with the older age (15). High number of cervical cancers, 62,5% (16), has been found during the first PAP examination while it hasn't been found in women who had PAP test once a year. High number of the abnormal cytological findings has been found (ASCUS 45.3%, LSIL 33.8%, and HSIL 36.7%) in the first test. Taking PAP test once a year reduces the possibility of death from cervical cancer from 5/10 000 to 4/1000 (17). Abnormal cytological findings are changes which persist, regrade to normal finding or smaller atypia or prograde to heavier atypia or invasive carcinoma. Conventional cytology as a screening method, proved its value in reducing morbidity and mortality in women. Our study showed that the women who had PAP examination once a year didn't have cancer, probably because of the treatment of changes that precede it. Since we know the way in which this disease develops, it is necessary to persuade women with the abnormal findings to have examinations and accept the treatment in order to stop development of the cancer itself.

It is very important to educate women about the significance of PAP test. One study in Turkey showed that women have more regular gynecological examinations and PAP tests if they are well informed about its importance (18)

6. CONCLUSION

Large number of women get the abnormal findings during their first PAP test and they should be persuaded to accept the treatment in order to prevent development of cervical cancer.

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