Corelation Between Cytologic, Colposcopic and Pathohistological Findings of Cervical Intraepithelial Lesions

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Aim of this study was to examine the frequency of cervical cancer and cervical intraepithelial lesions of a different degree in women, corelation between cytologically diagnosed CIN I, CIN II and CIN III lesions and colposcopic findings and corelation between cytologic and pathohistologic findings of CIN III lesion. Material and methods: Cytologic and colposcopic findings have been analysed retrospectively in 2652 women who went through systematic examinations in Women’s Health Care Department at Health Center “Dr.Mustafa Šehovic” Tuzla in period 2008-2011. For 93.2% (N=2475) cytology results were normal. Abnormal cytology result was found in 6.71% (N=178): CIN I in 5.54% (147), CIN II in 0.67% (18) and CIN III in 0.49% (13) of women examined. Results and discussion: Colposcopy in women with cytology results CIN I, CIN II and CIN III showed abnormal result in women with CIN I in 29.9% (44/147), CIN II in 61.1% (11/18) and CIN III in 61.5% (8/13). Significant association between abnormal colposcopic and abnormal cytologic findings (X²=36.30,p<0.0005). Abnormal colposcopic result is twice as often with CIN II and CIN III changes on cervix in relation to CIN I. Conclusion: Systematic examination of women represents an efficient way of organized screening and prevention of cervical cancer.

Key words: Cervical intraepithelial lesion (CIN), PAP test, colposcopy.
Cervical and endocervical smear was taken with a wooden spatula and a brush, which were coloured by Panancolou method and findings were classified by Croatian classification of Bethesda 1988 system of classification, taking into consideration standard criteria of differential cytology (ascus lesions were not analysed). After that, all women went through colposcopy examination with 3% solution of acetic acid and iodine test as well. In this process terminology adopted at VII World Congress of Cervical Pathology and Colposcopy in Rome in 1990 was used. Person who conducted colposcopy wasn’t aware of cytology findings. Colposcopy was conducted by two colposcopists with colposcope Olympus OSC 500, and PAP tests were examined with microscopes Olympus CX 400 and Olympus CX 31 by two cytologists. Cervical biopsy was performed in all women (N=13) with the cytological finding CIN III. The examinees were working women of different ages and parity and were classified by the years of examination, their age and the degree of cytologic findings.

Statistic evaluation of data is done by using x² test and the level of significance p<0.05 is considered significant.

4. RESULTS  
2652 women went through citology and colposcope examination in Women’s Health Care Department at Health Center Tuzla in period between April 2008 and September 2011. The age of these women was between 20 and 60. Majority of the examinees were older than 50 (Figure 1).

In 93.2% (N=2475) cytology results were normal. Abnormal cytology results were found in 6.71% (N=178): CIN I in 5.54% (147), CIN II in 0.67% (18) and CIN III in 0.49% (13) of women. The highest percentage of women with the results CIN I and CIN II were aged between 40 and 49, while the women with the result CIN III were mostly older than 50 (Figure 2). Statistic evaluation of data didn’t show significant connection between the frequency of abnormal cytology result and the age of the examinees (X²=11.32, p=0.0789).

Normal colposcopic finding wasn’t found in any of the women with the cytology results CIN I, CIN II or CIN III. Abnormal colposcopic result was found in women with CIN I in 29.9% (44/147), with CIN II in 61.1% (11/18) and with CIN III in 61.5% (8/13). The highest number of unsatisfactory colposcopic findings and mixed colposcopic images has been found with CIN I results. Data processing confirmed statistically significant association between abnormal colposcopic and cytologic findings (X²=36.30, p<0.0005, Table 1), which shows that the abnormal colposcopic result is highly statistically significant for the abnormal cytologic result. Abnormal colposcopic result is twice as often in CIN II and CIN III changes n cervix. Cervix biopsy in 13 women with a diagnose CIN III pathohistologically confirmed this diagnose in 46.1% (6/13), cervix lesion was of a higher degree in 30.8% (4/13) of cytologic findings and in 23.0% cervix lesion was of lower degree (3/13) (Table 2), while normal pathohistologic findings with CIN III changes weren’t found.

Examining the frequency of pathohistologic diagnosis of cervix biopsy with cytologically diagnosed CIN III hasn’t found statistically significant difference (p=0.208) in favor of more frequent occurrence of one of four diagnosis (Table 2).

5. DISCUSSION  
Systematic examination of women represents organized form of prevention of cervical cancer. It is considered that 50% of women with cervical cancer has never taken PAP or colposcopic examination, and in 21% the last normal PAP test was taken 5 years ago (2). Cytological screening programe for cervical cancer has reduced the disease for at least 20%, and its morbidity for more than 40% (3). At Health Center Tuzla, 2652 women were examined in period between 2008 and 2011. The age of the examinees was between 20 and 60, and the majority of the examined women were older than 50 in 41.5%.

Four cervical cancers (0.15%) and six CIS/CIN III (0.22%) were found. 6.7% (N=178) out of 2652 cytological exam-
In 61.5% in women with CIN I in 29.9%, CIN II in 61.1% with CIN III in 76.9% and colposcopy in 61.4% with CIN III lesion. Analysing cytologic-histologic correlation of findings with a high degree of CIN III lesions, diagnose was confirmed in 46.1% of the examinees, cervix lesion was of higher degree in 30.8%, while in 23.0% the degree of lesion was lower. Possibility of cytology in differentiating certain degrees of intraepithelial lesions is directly proportional to a degree of a lesion. Cytologic classification of atypia of cervix epithel states diagnostic accuracy of 26%-81% for CIN III (9). Examining the accuracy of colposcopy, cytology and biopsy on 151 with an early cervical neoplasia proved by biopsy Matsuura and ass. have found in 1996. that diagnostic accuracy of cytology was 52%, colposcopy 66% and biopsy 66%. Our research shows the accuracy of cytology in 76.9% and colposcopy in 61.4% with lesions of high degree (CIN III).

With this study we can conclude that systematic examination of women represents an efficient way of organized screening and prevention of cervical cancer.

Women aged 40 and 50 are those who are most at risk and must obligatory be included in screening for cervical cancer. Colposcopy examination is very important in the assessment of cervix condition and abnormal colposcopic image indicates abnormal cytological result.

For a reliable evaluation of the degree of the lesion, combination of diagnostic procedures of colposcopy, PAP test and pathohistological examination has shown to be justified.

Conflict of interest: none declared.

REFERENCES