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CERVIX - CYTOLOGICAL INVESTIGATION OF EPITHELIAL LESIONS

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Key words: *cervical cancer, cervico-vaginal smears, cytological study*

INTRODUCTION

In the 21st century, cervical cancer continues to be one of the most important public health problems facing mankind. Cervical cancer accounts for 44% of all female genital neoplasms, which justifies the efforts made nationally and internationally to study this disease.

Cervical cancer has a significant global impact, ranking second among neoplasms in women worldwide. Most cases (83%) are diagnosed in developing countries, where the implementation of cytological screening programs is defective. The social impact of cervical cancer is even greater than the number of cases suggests, as cervical cancer frequently affects relatively young women, being a major cause of mortality in developing countries. According to studies, Romania ranks first in Europe in terms of cervical cancer mortality.

Early detection is one of the most important factors in achieving therapeutic success, with regular examination playing the most important role in increasing life expectancy in women with a predisposition to this disease.

MATERIALS AND METHODS

A series of cytopathological examinations of vaginal discharge from patients of the Bacău County Emergency Hospital were performed between December 2020 and May 2021. The vaginal discharge was collected from the bottom of the posterior sac ("classic" procedure), exo area. - and endocervical. As additional material were used: observation sheets from the oncology department, cytopathological and anatomopathological results registers.

Cervico-vaginal smears of the collected secretion, wet fixation and subsequent air drying were performed in the cytology department of the hospital. Two types of staining were used, May-Grünwald-Giemsa staining and Babeş-Papanicolaou staining. The May-Grünwald-Giemsa method is a method that uses air-dried smears that can be stored for 24-48 hours until staining. It is a simple, fast and inexpensive method, but it has a high degree of diagnostic error.

The Babeş - Papanicolaou method is a high quality coloring, used in the Municipal Hospital number 1 Ploieşti. The nuclear dye is Harris hematoxylin (blue-violet), the cytoplasmic dye is orange G (squamous cell cytoplasm, anucleated scales, etc.) and the polychrome mixture EA50 or EA31 Papanicolaou (for intermediate, parabasal, basal cell cytoplasm, etc.).

The cytological study investigated the main cellular changes in 50 patients, aged 18-81 years (Fig. 1). In their interpretation, both the Babaş-Papanicolaou nomenclature and the TBS system (The Bethesda System) were used.

Fig 1. Cervico-vaginal smears, Papanicolaou coloring (Pap smear)

RESULTS AND DISCUSSIONS

The cytological test has multiple valences, allowing the discovery of other diseases present in the genitals (the presence of *Trichomonas vaginalis*, *Candida albicans* (fig. 2), etc.), remaining a safe means of detecting cervical cancer in large groups of the population. (screening).

a) Any vaginal smear with a clinical significance of "normal" from a woman with normal hormonal function contains superficial and intermediate squamous cells. Their proportion may vary depending on the period of the menstrual cycle (Fig. 3).

The complete absence of superficial cells in a young woman indicates a disorder of ovarian function.

b) Epithelial cell abnormalities - atypical epithelial cells (AUC)

- ASC-US smear (fig. 4)

- The smear contains atypical scaly cells of undetermined significance

- Occurs in inflammatory lesions, atrophic or in the early stages of HPV infection.

- ASC-H smear (fig. 5)

- the smear contains atypical squamous cells which cannot rule out an intraepithelial lesion of high grade.

- LSIL smear (fig. 6)

- low-grade squamous intraepithelial lesion

- has cytological effects caused by HPV and mild dysplasia (CIN)

- HSIL smear (fig. 7)

- has a wide variety of cytological aspects

c) Granular cell abnormalities

- ACG smear

- endocervical atypical granular cells, endometrial without other specifications and atypical granular cells favorable for neoplasia

- has a large number of atypical granular cells.

- They are arranged in groups or clusters

- Invasive adenocarcinoma

The cytopathological study in the 50 investigated women, the interpretation and correlation of the laboratory results led to the following results recorded in the following table and fig. 8. Thus, 20 women presented normal vaginal smear (40%), 18 women smear LSIL (36%), 16 women smear ASC-US (32%), 3 women smear ASC-H (6%), two women HSIL smear (4%) and one woman ACG smear (2%).

In relation to the type of cervico-vaginal infection (fig. 9), out of the 50 women investigated, 20 showed a normal smear (40%), in 9 women Garnerella vaginalis was identified (18%), in 7 women Trichomonas vaginalis (14%), Candida albicans was identified in 5 of the women (10%) and cocobacilli in another 5 women (10%), and Actinomyces was identified in 4 women (8%). In 45 women HPV was absent (90%) and in 5 women (10%) HPV was present (Fig. 10).

CONCLUSIONS

Cytological examination is a simple, expeditious, reliable, inexpensive method, being considered the most effective technique for preventing and detecting precancerous conditions of the cervix which, properly treated, can provide a primary prevention of cervical cancer.

Cases of progressive CIN lesions have always been positive for HPV, although the effect of HPV on the progression of CIN-type lesions must be correlated with other risk factors (age, smoking).

As can be seen from the table, of the 50 patients studied as a result of cytological diagnosis, 20 patients had a normal smear, 18 patients were diagnosed with LSIL, followed by the frequency of AUC-US found. In 16 of the smears examined, 3 of the patients had ASC-H, 2 HSIL and only 1 single ACG patient.

Following the study, we can specify that the results were positive in the case of 30 patients, who presented a form of cellular abnormalities in the cervix, while only 20 of the people who took part in the study had negative results.

The cytological results shown in the table and figure 12 showed that 33% of the patients who took part in the study had a normal vaginal cytological smear, the smears being negative for intraepithelial or malignant lesions.

In a proportion of 30% we encountered the LSIL class as a frequency, followed by the ASC-US category in 27% of cases. The ASC-H class ranks fourth in frequency, with a percentage of 5% in the study, HSIL 3% and ACG 2%.

ABSTRACT

A series of cytopathological examinations of vaginal discharge from patients of the Bacău County Emergency Hospital were performed between December 2020 and May 2021. The vaginal discharge was collected from the bottom of the posterior sac ("classic" procedure), exo area. - and endocervical.

The cytological study investigated the main cellular changes in 50 patients, aged 18-81 years (Fig. 1). In their interpretation, both the Babaș-Papanicolaou nomenclature and the TBS system (The Bethesda System) were used. Of the 50 patients studied as a result of cytological diagnosis, 20 patients had a normal smear, 18 patients were diagnosed with LSIL, followed by the frequency of AUC-US found in 16 of the smears investigated, 3 of the patients have ASC-H, 2 HSIL and only 1 single ACG patient.

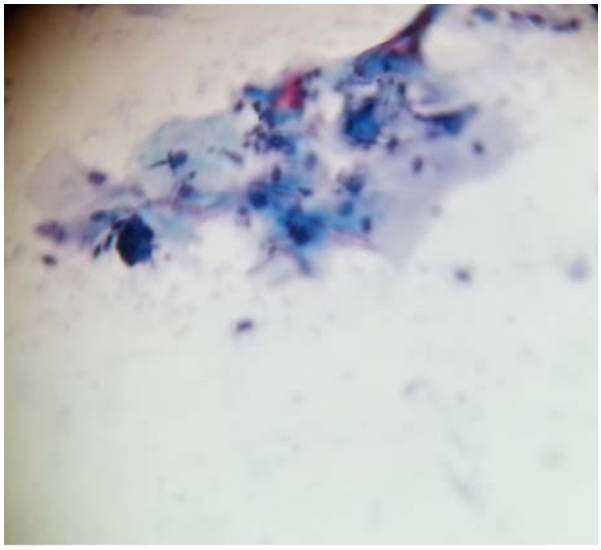

Fig. 2. *Candida albicans* smear

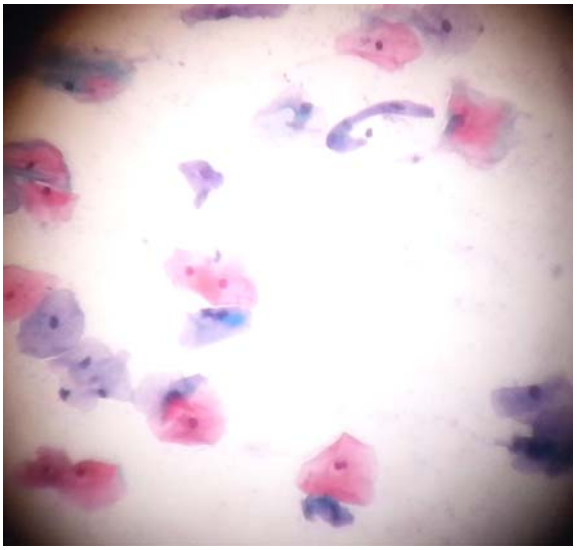

Fig. 3. Normal smear

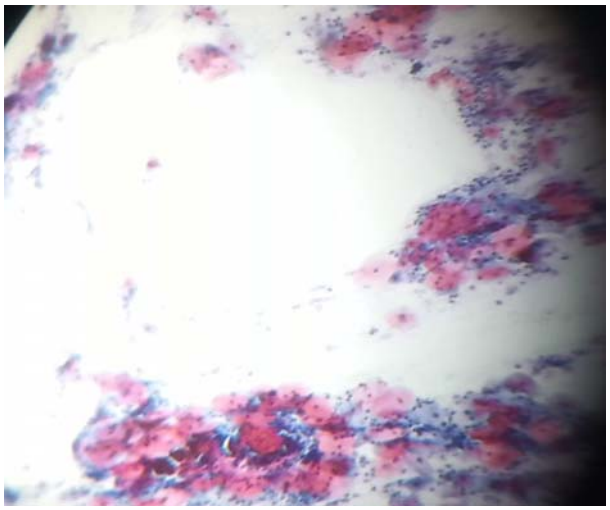

Fig. 4. ASC-US vaginal smear

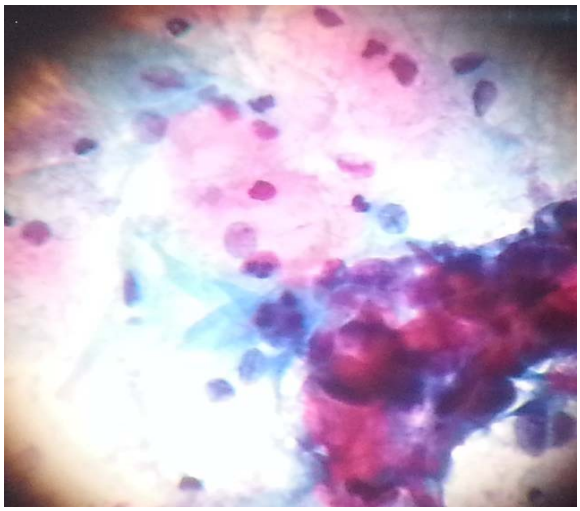

Fig. 5. ASC-H vaginal smear

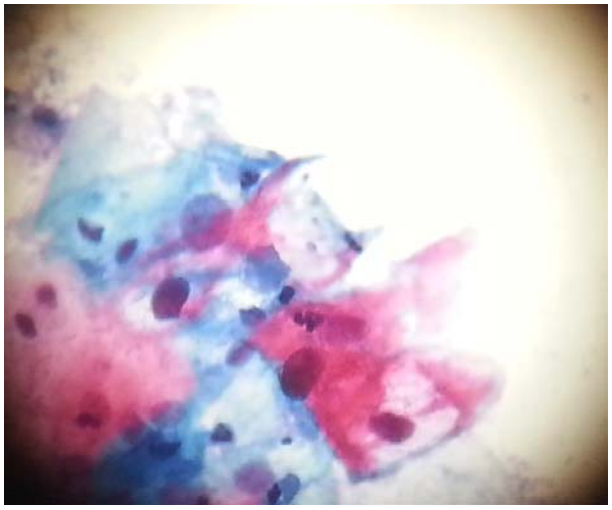

Fig. 6. LSIL vaginal smear

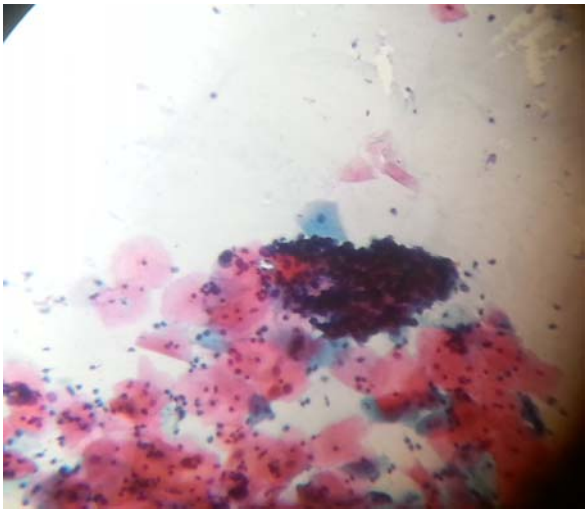

Fig. 7. HSIL vaginal smear

NORMAL SMEAR	ASC-US	ASC-H	LSIL	HSIL	ACG
20	16	3	18	2	1

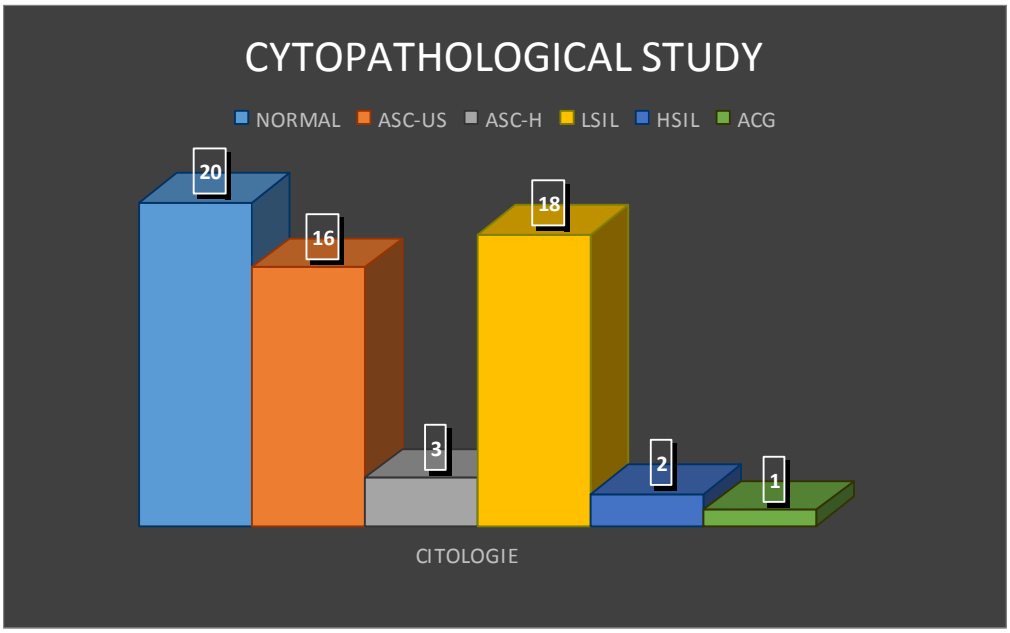

Fig. 8. Distribution of investigated patients in relation to cytodiagnosis

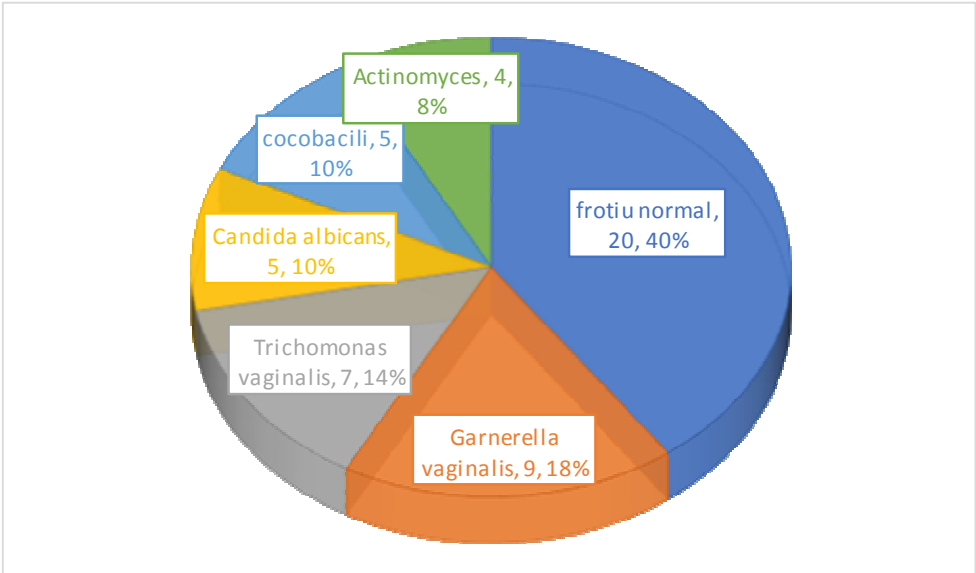

Fig. 9. Distribution of cytologically investigated patients in the report with the type of cervico-vaginal infection

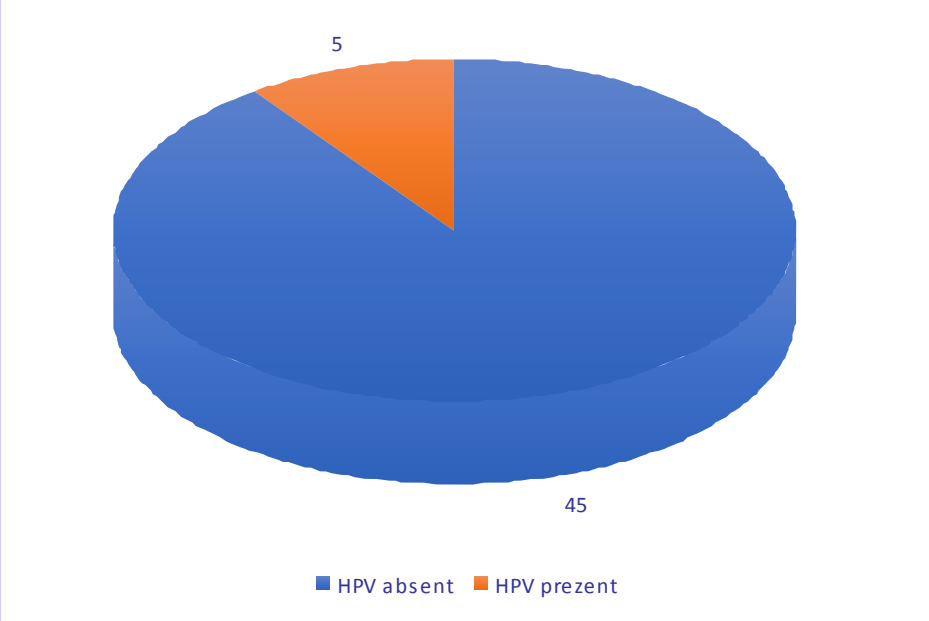

Fig. 10. Distribution of investigated patients in relation to the presence / absence of HPV

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