THE MODERN WAY OF DIAGNOSIS OF CERVICAL CANCER
IN DIFFERENT AGES

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Annatation: Given that clinical prognosis still exhibits significant variability and is challenging to predict, more and more studies have been conducted to explore the biomarkers for the diagnosis and prognosis of cervical cancer. A study has revealed that, compared to the younger group, elderly patients (≥65) with cervical squamous carcinoma have a higher frequency of gene mutations. Moreover, these mutations are considered potential prognostic markers in the old populations. The analysis of patients with cervical pathology showed that 67% of the 2 main groups of patients had a certain number of diseases with the term cervical erosion. It is known that cervical erosion is a disease that is very rare and indicates desquamation of the epithelium, in this case, etiotropic treatment is recommended instead of destructive treatment. Many patients were treated with various destructive methods without additional examination and without an accurate diagnosis.

Key words: cervical cancer, gene mutation, cervical erosion, prognostic markers.

Relevance: Cervical cancer is a significant global health burden, consistently ranked as the third most prevalent cancer among females over the past decade. Despite advancements in screening and treatment, it remains the leading cause of cancer-related mortality among women in undeveloped countries.[10] Age has been recognized as a pivotal factor influencing the prognosis and treatment outcomes of cervical cancer patients. The estimated incidence of cervical cancer varies widely among countries, with a global age-related incidence rate of 13.1 per 100,000 women.[9] Notably, the disease's biological behavior and response to therapies have been found to vary significantly across different age groups, prompting researchers to investigate the underlying mechanisms and develop tailored treatment strategies for each cohort.[10]

The elimination of cervical cancer rests on high efficacy of human papillomavirus (HPV) vaccines. The HPV type distribution among cases of invasive cervical cancer (ICC) is used to make predictions about the impact of eliminating different types of HPV, but accumulating evidence of differences in age-specific cancer incidence by HPV type exists. We used one of the largest population-based series of HPV genotyping of ICCs (n = 2,850; Sweden, 2002–2011) to estimate age-specific ICC incidence by HPV type and obtain estimates of the cancerprotective impact of the removal of different HPV types. In the base case, the age-specific ICC incidence had 2 peaks, and the standardized lifetime risk (SLTR, the lifetime number of cases per birth cohort of 100,000 females) for HPV-positive ICC was 651 per 100,000 female births. In the absence of vaccine types HPV 16 and HPV 18, the SLTR for ICC was reduced to 157 per 100,000 female births (24% of HPV-positive SLTR). Elimination of all 9 types that can currently be vaccinated against reduced the remaining SLTR to 47 per 100,000

female births (7%), the remaining ICC incidence only slowly increasing with age. In conclusion, after elimination of vaccine-protected HPV types, very few cases of ICC will be left, especially among fertile, reproductive-age women.

The underlying genetic predisposition to the outcome may vary with age and other risk factors, reflecting the underlying molecular mechanisms shaping the onset distribution.[4-6] Younger women diagnosed with cervical cancer often exhibit distinct clinical characteristics and experience more aggressive disease courses. An epidemiologic and clinical analysis of cervical cancer from Japan showed that young patients in the radiotherapy group had a worse prognosis.[6-8] Another case-control study demonstrated that certain genetic polymorphisms are the risk factor and can significantly reduce the risk of younger patients ($\leq$49).[9] However, a retrospective study provided data showing that the elderly population has much lower compliance and completion rates with surgery, RT, or chemotherapy as recommended standard practices.[9-10] Therefore, understanding the pathogenic differences among age groups is essential for optimizing treatment approaches and improving overall survival rates.

Given that clinical prognosis still exhibits significant variability and is challenging to predict,[8-9] more and more studies have been conducted to explore the biomarkers for the diagnosis and prognosis of cervical cancer. A study has revealed that, compared to the younger group, elderly patients ($\geq$65) with cervical squamous carcinoma have a higher frequency of PIK3CA mutations. Moreover, these mutations are considered potential prognostic markers in the old populations.[9-10] Another recent study has reported that a high level of TMEM33 expression can independently predict the prognosis of cervical cancer and correlate negatively with regulatory T cells and mast cells.[11] However, comprehensive molecular characteristics and prognostic markers for patients in different age groups have yet to be fully elucidated.

In this study, we aim to explore the distinct carcinogenic characteristics of cervical cancer patients at different onset ages and establish a general prognostic model. Through a comprehensive analysis of genomic and transcriptomic differences between younger and elderly onset groups, we seek to elucidate molecular markers driving cancer initiation, progression, and treatment response in 2 age groups. The insights gained from this study will contribute to the progress of personalized medicine in the management of cervical cancer, ultimately enhancing survival rates and the quality of life for patients of all age ranges.

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The Aim of the Study:
To study the position of the cervix and the tactics of cervical pathology in women who underwent total hysterectomy and did not undergo surgery due to uterine fibroids.

Material and Methods:
100 patients with uterine fibroids of two groups, with controlled uterine fibroids aged from 26 to 55 years, with an average of 37.3 ±0.8 uterine fibroids were analyzed.

Group 1 - 70 cases of uterine fibroids treated surgically;

By the 2nd group, 30 aèl departments have been organized, which are under the supervision of a dispensary with uterine fibroids.

The control group consisted of 25 patients with an average age of 38.2±0.8 years, who had no pathology in the uterine body.

Results:
During the examination of patients, the main emphasis was placed on the presence of pathology in the body and cervix during ananesia. The means and methods of contraception used by the patient were also emphasized. The main attention was paid to the complaints of patients, the factors of the development of diseases of the body and cervix were considered. The effectiveness of earlier treatment has been thoroughly studied. On average, 37.3±0.8 patients were examined, from 26 to 55 patients.

This is an examination and revision of the cervix area, the condition of the vagina and vulva, in which the epithelial layer of the cervix is enlarged 15 times under a microscope. Colposcopy-Leisegang‖ is viewed through a colposcope, the position of the epithelial fundus of the bund is performed in a position of 15-fold magnification. Extended colposcopy was performed according to a generally accepted technique: the mucous membrane of the cervix is not treated at first, then treated with 3% acetic acid, at the end it is checked on an aqueous solution of 2% Lugol (Schiller probe). To evaluate colposcopic lubrication, we used the international colposcopic terminology,

revised by the International Colposcopic Association (organization), which studies cervical pathology and colposcopy in Barcelona in 2003.

The material for cytological examination is taken from the upper part of the cervical canal, the transition zone and the endroservical. The lubricated grease is ground into a mixture of Nikoforov (1:1 most alcohol and ether) at a temperature of 20 minutes. The preparations are obtained with chalk based on the papanicolau method: hematoxylin chalk, phosphoric sulfuric acid and carrot G, then stained with green, brown Bismarck and Y-eosin.

He used the classification of Papanicolaou to evaluate the results of cytological examination. The result is typical for morphologically altered epithelial cells for the 2nd degree, typical for a cytogram based on normal cells for the 1st degree, in which there is the appearance or metaplasia of epithelial cells in an enlarged state of the nucleus, in the 3rd degree there is the appearance of clearly morphologically altered nuclei, called discariasis, characterized by the appearance of atypical cells of the 4th degree. Morphological studies of biopsies of the cervix and deeply located tumors were carried out in the laboratory of pathomorphology.

As a result of colposcopic examination, 22 (31.4%) patients of group 1, 10 (33.3%) patients of group 2 and 8 (32%) of the control group showed signs of inflammation of the cervix and the mucous membrane of the cervical canal, exoservicitis. These patients had a red rash that appeared after treatment with a 3% solution of acetic acid based on hyperemia and edema. After the transfer of Schiller (cinema) si, it became known that these rashes were not smooth and dense. The namoen of cervicitis was caused by edema that was visible to the eye around the cervical canal, where hyperemia and yellowish fluid separated. The colcoscopic type of exoservitis, which was detected in combination with ectopic elements, was detected in 2 (2.8%) patients of group 1 and in 1 (3.3%) patients of group 2. During the same period, there was noticeable hyperemia and swelling of the external mucous membrane of the cervix, as well as a state of increased secretion of glands. There is also a case of an invisible rash. When analyzed with Lugol's solution, an uneven spot on the mucous membrane is observed.

Conclusion:

When analyzing the obtained, it can be that when analyzing patients in the group, it was found that children were infected with infectious diseases and extragenital diseases, and their frequency was not studied in the group. When analyzing patients with uterine fibroids, infectious and inflammatory gynecological diseases, mainly cervicitis and chronic salpingoopharitis of the musculature, attract attention. The analysis of patients with cervical pathology showed that 67% of the 2 main groups of patients had a certain number of diseases with the term cervical erosion. It is known that cervical erosion is a disease that is very rare and indicates desquamation of the epithelium, in this case, etiotropic treatment is recommended instead of destructive treatment. Many patients were treated with various destructive methods without additional examination and without an accurate diagnosis.

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