

The Predisposing Factors and Targeted Therapy of Cervical Cancer

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Abstract. According to the WHO report, there are about 500,000 new cervical cancer patients in the world every year, second only to breast cancer. Therefore, it is essential to study the pathogenic factors of cervical cancer and prevent the occurrence of cervical cancer. In recent years, the author analyzed the pathogenic factors of cervical cancer and targeted therapies for cervical cancer prevention in domestic and foreign literature and found that cervical erosion, sexual behaviour, education level, and economic status are high-risk pathogenic factors. Human papillomavirus, Cytomegalovirus, herpes simplex virus type 2 is its microbial pathogenic factors and other pathogenic factors, including genetic changes and hormones. Targeted therapy provides a new direction for the treatment of cervical cancer, but most of them are targeted. The drug is still in phase I or phase II clinical trials, and according to analysis, it is suggested that women should actively learn medical knowledge and other related knowledge.

Keywords: Cervical cancer; Predisposing factors; Targeted therapy.

1. High-risk Pathogenic Factors of Cervical Cancer

1.1 Cervical Erosion

Cervical erosion is the most common pathological change in chronic cervicitis. According to statistics, the incidence of cervical cancer in women with cervical erosion is 10 times higher than that of those without, and the severity of cervical cancer is significantly higher than that of mild. Cervical erosion can lead to dysplasia of the cervical squamous epithelium, which is related to the onset of cervical cancer.

1.2 Sexual Disorders, Poor Sexual Hygiene and Marital Birth Factors

Early sexual life and multiple sexual partners are one of the essential reasons for the occurrence of young cervical cancer; some scholars have found that how many sexual intercourses are younger than 20 years old [1]? Personality partners older than 20-year-old asexual partners are 5 to 6 times more likely to have cervical cancer. Another study believes that when the age of first intercourse is younger than 16 years, the development of the lower reproductive tract is immature, which is a risk for carcinogenic factors. It is more sensitive to irritation. Once infected with certain bacteria or viruses, under the stimulation of multiple sexual partners, it is straightforward to develop and become cancerous.

Early marriage, early childbirth, multiple pregnancy and multiple childbirth increase the chance of virus and bacterial infection due to numerous pregnancies and childbirth, stimulation and damage to the cervix, endocrine changes during pregnancy and nutritional reasons, resulting in abnormal hyperplasia of cervical epithelium and development of cervical cancer.

1.3 High Age

The high incidence age of cervical cancer is 40-60 years old. In recent years, the research found that the incidence rate of cervical cancer is younger. The incidence rate of young cervical cancer (less than 35 years old) increases year by year, and the sexual concept is gradually open.

1.4 Social Factors

Many studies have shown that education is a significant risk factor for cervical precancerous lesions and cervical cancer. High education level, low risk of cervical cancer, low education level, poor awareness of prevention, less participation in cervical cancer screening and gynecological examination, so the risk of cervical cancer is high.

The ability to pay for health care services determines whether women participate in cervical cancer screening and gynecological examination and the timely detection of cervical precancerous lesions and pathogenic factors of cervical cancer. Many surveys show that the mortality of cervical cancer in rural areas is significantly higher than that in urban areas.

A study has shown that reduced body folic acid levels can increase the risk of cervical precancerous lesions and cervical cancer, and vitamin A can prevent cervical cancer happened [2].

Some scholars divided 3187 women into never-smokers, past-smokers and current-smokers. Studies have found that the increased risk of smoking is mediated by high-risk human papillomavirus (HPV) due to the effect of high-risk HPV. Now, smoking has become an independent risk factor in the multivariate model, one of the independent risk factors for high-risk HPV infection. HPV is closely related to cervical cancer. Studies have found that oral contraceptives can increase the risk of cervical cancer [3]. Exogenous estrogen can promote cervical squamous epithelial hyperplasia, prone to malignant transformation.

Pickled products contain high levels of carcinogen nitrite, so women's frequent consumption of pickled products is a risk factor for cervical cancer.

Menopause is a protective factor for cervical cancer because the estrogen in the body decreases after menopause. Some scholars analyzed 221 cases of gynecological malignant tumours over 60 years old and found that the main ones were ovarian and endometrial cancer. Cervical cancer only accounted for 33/221, showing that cervical cancer is related to menstruation.

Smegma is a chemical carcinogen. Many experiments have confirmed that it has a strong carcinogenic effect. Therefore, the smegma of male sex partners is also a risk factor for cervical cancer.

2. Microbiological Pathogenic Factors

2.1 Human Papilloma Virus (HPV)

Harald Zulhausen, discovered HPV for the first time in women with uterine cancer. Some people believe that HPV infection is the initial cause and necessary factor of cervical cancer. Without HPV, cervical cancer cannot occur. But not all HPV-infected people will inevitably develop cervical cancer. In fact, most of the infections are transient and disappear naturally within 2 years. Only when the immune function is insufficient to control or clear the infection, or there are other promoting factors (Such as smoking), HPV infection persists and produces chromosome instability, which eventually leads to malignant transformation of endothelial cells. Normal cervix of susceptible women can evolve into cervical cancer in 12-15 years.

2.2 Cytomegalovirus (HCMV)

Studies have concluded that HPV is the main carcinogenic factor of cervical cancer, but it is not the only carcinogenic factor [4]. HPV16 alone is not enough to cause complete malignant transformation of normal squamous epithelium. When synergistic factors work together, it will lead to the occurrence of cervical cancer. Through experiments, scholars have confirmed that HCMV IE2 is one of the co-factors leading to cervical cancer.

2.3 Herpes Simplex Virus Type 2 (HSV-2)

Scholars used polymerase chain reaction (PCR)-endonuclease typing to detect HPV-DNA and HSV-DNA genes in cervical cancer biopsy tissues, and normal cervical tissues were used as controls.

The result is that the positive rates of HPV16.18 and HSV.2 in cervical cancer biopsy tissues were 38.9% and 34.6%, respectively.

3. Other Pathogenic Factors

There is a non-random sex chromosome ratio in cervical cancer cells. The URR area of HPV16 contains some hormonal regulatory elements. Glucocorticoid and progesterone can enhance viral transcription, thereby increasing the incidence of cervical cancer. The enhanced expression in cervical cancer has a particular relationship with the malignant biological behaviour of cervical cancer.

4. The Role of Targeted Therapy in the Treatment of Cervical Cancer

In the past 10 years, the application of targeted drugs to treat advanced tumours has become a research hotspot in the medical field. With molecular biology techniques and further understanding of the pathogenesis, breakthroughs have also been made in targeted drug therapy, including anti-vascular Generating drugs, tyrosine kinase inhibitors, epidermal growth factor receptor blockers, etc. Combined with chemotherapy, some of these drugs have become the first-line treatment for recurrent or metastatic cervical cancer. However, with the widespread use of cisplatin-based chemoradiation therapy in locally advanced diseases, people have expressed concern about platinum resistance and radioresistance during relapse, which has prompted researchers to develop new targeted drugs. HPV infection has been identified as the leading cause of cervical cancer. Its oncogene E6 / E7 can escape host immune surveillance through various ways, leading to continuous virus infection and the development of cervical lesions, and finally leading to the occurrence of cervical cancer. E6 and E7 are the driving factors of tumour progression. Therefore, much basic research and clinical trials target E6 / E7 genes to find effective treatments for cervical cancer [5].

The treatment of cervical cancer is still a massive challenge in gynecological oncology. Targeted therapy provides a new direction for the treatment of cervical cancer. However, most targeted drugs are still in phase I or phase II clinical trials to evaluate their clinical efficacy and adverse reaction rates [6]. What is the effect of cervical cancer targeted therapy? At present, it can only be said that it varies from person to person. After most women undergo cervical cancer targeted therapy, the effect is still perfect because it is very likely after targeted treatment. It is possible to completely cure cervical cancer by removing the cancer cells directly and cooperating with surgery. However, some women with cervical cancer are already late when discovered, and they are not particularly sensitive after taking medicine. Therefore, after the targeted treatment of cervical cancer, the condition is still gradually getting worse. Therefore, not all women with cervical cancer are. After targeted therapy, it can play a perfect effect, and every woman will have a distinct difference after treatment.

5. Conclusion

In short, there are many pathogenic factors for cervical cancer. Its occurrence and development is a very complicated biological process, which is often the result of multiple factors, multiple steps, and long-term effects [7].

Women should learn more about medical knowledge, have regular gynecological examinations, actively participate in cervical cancer screenings, actively treat chronic cervical inflammation, especially cervical abrasion, achieve late marriage and late childbirth and birth control, use condoms and other measures to avoid unintended pregnancy and eliminate Before marriage and extramarital sex and other unclean sexual intercourse, do not smoke, eat less pickled foods, eat more foods containing folic acid and vitamin A, C, husbands pay attention to remove smegma [8].

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