



CERVICAL CANCER: A LITERATURE REVIEW

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ABSTRACT:

Cervical cancer is one of the leading causes of cancer death among females worldwide and its behavior epidemiologically likes a venereal disease of low infectiousness. Early age at first intercourse and multiple sexual partners have been shown to exert strong effects on risk.

The wide differences in the incidence among different countries also influenced by the introduction of screening. Although the general picture remains one of decreasing incidence and mortality, there are signs of an increasing cervical cancer risk probably due to changes in sexual behavior. Smoking and human papillomavirus (HPV) 16/18 are currently important issues in a concept of multifactorial, stepwise carcinogenesis at the cervix uteri. Therefore, society-based preventive and control measures, screening activities and HPV vaccination are recommended.

Cervical cancer screening methods have evolved from cell morphology observation to molecular testing. High-risk HPV genotyping and liquid-based cytology are common methods which have been widely recommended and used worldwide. In future, accurate, cheap, fast and easy-to-use methods would be more popular. Artificial intelligence also shows to be promising in cervical cancer screening by integrating image recognition with big data technology. Meanwhile, China has achieved numerous breakthroughs in cervical cancer prevention and control which could be a great demonstration for other developing and resource-limited areas. In conclusion, although cervical cancer threatens female health, it could be the first cancer that would be eliminated by human beings with comprehensive preventive and control strategy.

KEYWORDS:

Cervical cancer,

Epidemiology,

Risk factors,

Screening.

INTRODUCTION:

Cervical cancer is the second common female malignant tumor globally which seriously threatens female's health. Persistent infection of high-risk human papillomavirus (HPV) has been clarified to be the necessary cause of cervical cancer. The clear etiology accelerated the establishment and implementation of comprehensive prevention and control system of cervical cancer. In May 2018, the World Health Organization (WHO) issued a call for the elimination of cervical cancer globally, and more than 70 countries and international academic societies acted positively immediately.

Thereafter, in November 17, 2020, WHO released the global strategy to accelerate the elimination of cervical cancer as a public health problem to light the road of cervical cancer prevention and control in future which mean that 194 countries promise together to eliminate cervical cancer for the first time . At this milestone time point, we reviewed the update progress of cervical cancer prevention and control in epidemiology, risk factors and screening, in order to pave the way of cervical cancer elimination.

EPIDEMIOLOGY FOR CERVICAL CANCER:

Cervical cancer is one of the leading causes of cancer death among women. Over the past 30 years, the increasing proportion of young women affected by cervical cancer has ranged from 10% to 40%. According to the WHO and International Agency for Research on Cancer (IARC) estimates, the year 2008 saw 529,000 new cases of cervical cancer globally. In developing countries, the number of new cases of cervical cancer was 452,000 and ranked second among malignancies in female patients. Conversely, the number of new cases of cervical cancer was 77,000 in developed countries and ranked tenth among female malignancies.

In China, cervical cancer is the second largest female malignant tumor. According to the data from National Cancer Center in 2015, there were 98,900 new cases and 30,500 deaths of cervical cancer. In the past 20 years, the incidence and mortality of cervical cancer have been increasing gradually in China.

RISK FACTORS FOR CERVICAL CANCER:

A number of risk factors for cervical cancer are linked to exposure to the HPV. Invasive cancer development process could prolong up to 20 years from the precursor lesion caused by sexually transmitted HPV. However, there are also other numerous risk factors (such as reproductive and sexual factors, behavioral factors, etc) for cervical cancers which include sexual intercourse at a young age (<16 years old), multiple sexual partners, smoking, high parity and low socio-economic level.

SCREENING FOR CERVICAL CANCER:

With the background of cervical cancer elimination worldwide, cervical cancer screening plays an increased role in the comprehensive prevention and control besides HPV vaccination, especially those methods that demonstrated excellent clinical performance.

PATHOPHYSIOLOGY:

HPV is the causative agent in cervical cancer. More than 75 percent of cases are due to high-risk HPV 16 and 18. Although there are more than a half-million cases of HPV identified annually, most are low-grade infections and will spontaneously resolve within two years. Progression of high-grade lesions and cancer are seen in the presence of other carcinogenic factors such as listed above.

TREATMENT AND MANAGEMENT:

Precancerous lesions are managed conservatively for those women younger than 25 years. The majority of abnormal findings in women younger than 25 are low-risk cervical dysplasia and will resolve spontaneously. Colposcopy evaluates persistent, abnormal cytology or lesions suspected to be greater than low risk.

These are managed according to findings. Low-risk lesions may be watched and reevaluated more frequently, and high-risk lesions are treated based on size, location, and staging. Cryotherapy or excision is done to manage pre-cancerous lesions that are limited in size and depth. Conization, laser, or Loop Electrosurgical Excision Procedure (LEEP) are used in managing those lesions that include the endocervical canal and are more extensive. LEEP may provide better visualization of the squamocolumnar junction and provide the benefit of less bleeding in the outpatient setting.

If invasive cancer is diagnosed, the next step in management is staging to determine further treatment. Staging is based on findings and results from examination, tissue findings, imaging, and reported signs and symptoms. Grading is based on the size and depth of cancer and signs of spread to other organs.

Treatment of early-stage disease is typically surgical resection which can range from a conization to a modified radical hysterectomy. However, women with high risk features post-resection may require adjuvant treatment with chemotherapy and radiation. For women who desire pregnancy with early-stage disease, conization or trachelectomy may be an option. For more advanced disease, concurrent chemoradiation is the standard of care.

COMPLICATIONS OF CERVICAL CANCER:

Complications of advanced disease and associated treatments are similar to other cancers. Complications may include renal failure, hydronephrosis, pain, lymphedema, bleeding disorder, and fistulas. For more details regarding specific complications of the various interventions, please refer to each treatment modality section.

CONCLUSIONS:

The disease burden of cervical cancer has decreased significantly in developed countries and regions in last decades, however it is still serious in less developed countries and regions, and effective preventive measures in these areas still face serious challenges. At present, there are various available prevention and control measures that are cost-effective and scientific evidence-based to meet the needs of areas with different economic levels. It is gratifying to note that the globe has achieved a strategic consensus on the elimination of cervical cancer and also has developed and released the global strategy to accelerate the elimination of cervical cancer. Although the global elimination of cervical cancer has a long way to go, it is believed that through large-scale continuous promotion and widely use of existing effective prevention and control measures, cervical cancer will become the first cancer eliminated by human beings.

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