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Brief notes on Cervical Cancer

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INTRODUCTION

Cancer develops when normal cells in a particular part of the body begin to grow out of control. Cervical cancer is the most common gynaecologic distortion worldwide. The cervix is the lower part of the uterus, the structure that enlarges during childbirth to allow the baby to pass through the birth canal. In some cases uterus may rupture with the mishandling of labour faculty. Cancer of the cervix occurs when the cells of the cervix changes in a way that leads to abnormal growth and ultimately results in the invasion of other tissues or organs of the body. Cancer occurs in different cell types. Cervical cancers start in the cells on the surface of the cervix. There are two types of cells on the cervix's surface which are squamous and columnar cells. A cancer with both types of cells is called an adenocarcinoma with squamous differentiation. Most cervical cancers arise from squamous cells. Cervical cancer usually develops very steadily. It begins as a precancerous condition called tumour. Cervical tumours refer to the presence of precancerous changes of the cells that make up the inner lining of the cervix. This precancerous condition can be detected by a Pap smear. But the undetected precancerous changes can develop into cervical cancer and spread to the bladder, intestines, lungs, and liver [1].

Cervical cancer is currently the second most common form of tumour worldwide and third in the females. It is the first or second most common cancer in low income countries [2]. Human Papilloma Virus (HPV) infection, which is sexually transmitted virus when left un-treated, leads to cervical cancer [3]. Infection with Human Papillomavirus (HPV) is established as an opening cause of cervical cancer, other causes for the cause of cervical cancer besides HPV are tobacco smoking, long-term use of contraceptive pills and co-infection with HIV. Other probable cofactors can be co-infection with Chlamydia trachomatis, herpes simplex virus type-2, immunosuppression and certain dietary [4]. It has also been recognized that hrHPVs (higher risk HPVs) cause major scopes of other anogenital cancers (anus, vulva, vagina, and penis) and also head and neck cancers in both men and women [5]. Early Stage Cervical Cancer (ESCC) is defined as the cancer only limited in the uterine cervix. According to Federation of International Gynaecology and Obstetrics (FIGO), and based on recent effective screening system and easily notable self-warning symptoms, near 42-49% CC cases are found to be ESCC [6].

In the current hypothesis of molecular targeted therapy, cervical cancer need to have a comprehensive genetic landscape analysis to be performed and hopefully to develop new methods of diagnosis and treatment [7].

Cervical cancer is common and aggressive in HIV-positive women. Papanicolaou (Pap) testing helps in earlier identification resulting in early treatment. Guidelines recommend annual screening for this population [8].

Statistics

Approximately 520000 new cases of invasive cervical cancer are recorded worldwide every year [9].

In the United States, the annual incidence of cervical cancer is approximately 12,000 and over half of these cases occur in women [10].

In 2012, it was estimated that nearly 1.6 million cases of cancer were diagnosed – 790,740 cases for women in particular

In 2013, another 1.7 million cases are expected to be diagnosed in the United States [11].

In Nigeria the incidence of cervical cancer is 14,550 per 100,000 and the mortality rate is 9,659 per 100,000 [12].

WHO conveyed that worldwide 12.5% of all deaths are due to cancer and if the tendency continues, it is estimated that by 2020, 16million new cases will be diagnosed per annum and out of which 70% will be in the developing countries [13].

In Spain the current data indicates that every year more than 2,000 women are diagnosed with cervical cancer and nearly 800 die from the disease [14].

TREATMENT FAILURES

Patients with early stage of cervical cancer when treated with surgery or radiotherapy are likely to have a good diagnosis. However, extensive treatment failure still occurs and about 30% of the patients treated for cervical carcinoma develop advanced or repeated tumours. Patients who suffer recurrence have a miserable prognosis with a 1-year survival rate of between 15 and 20%

Recurrent cervical cancer is defined as local tumour re-growth or the development of nodal or distant metastases at least 6 months after the injury has relapsed. Outstanding disease is that which is evident within 6 months of primary treatment. The average rate of recurrence is that approximately two-thirds of cases recur within the first 2 years following initial treatment, and 90% of cases recur by 5 years

The risk of treatment failure depends on the initial staging and, consequently, on the chosen therapeutics. Risk factors for recurrence of cervical carcinoma include the histological type, size, depth of stromal invasion, and the nodal status at presentation.

Pelvic recurrence can locate centrally or laterally in the pelvis. Extra-pelvic recurrence most commonly involves para-aortic lymph nodes, lungs, liver and bone [15].

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