

A Light Microscopic Eye View of Reproductive Cancer Images

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INTRODUCTION

Endometrial cancer is a malignancy of the uterine lining which occurs most often in women from 50-65 years of age [1]. The estimated survival rate remains between 75 to 90 percent. Cervical cancer is the abnormal growth of cells in the cervix. These abnormalities are first apparent in the endocervix – the narrow canal that leads from inside the uterus out to the vagina [2]. The endocervical canal is the most likely vulnerable site to cancer because it is an area of cellular transition and constant change. The cervical cells are squamous cells. The endocervical canal is the point at which two cell types meet. Here the cuboidal cells actually transform into squamous cells. The intense cellular activity leaves this area susceptible to abnormalities. In the United States, the cervical cancer is the 8th most common cancer in women. In UK it is the 12th most common form of cancer in women. In European Union there were about 34000 new cases of cervical cancer reported annually [3]. In Canada 1300 women were diagnosed with cervical cancer in 2008. In Australia there were 734 cases of cervical cancer registered. In India more than 2.5 million cases have been estimated per year and it is presumed to be one of the ten leading causes of death. The cervical and breast cancers were predominant in women. The national cancer registry and a survey attributed various socio-economic and endogenous factors as the prime cause of uterine – cervical cancers in India. In contrast to the above statistics which is a decade back, the current information reveals that cervical cancer is found worldwide 5,70,000 new cases in 2018 and about 90% of deaths from cervical cancer occurred in low and middle income countries.

Both the preclinical and advanced stages of cervical cancers could be identified by the cyto-diagnosis. The uterine-cervical cancers have been categorized through histological examination into specific types. The various types of cervical cancers include interstitial, signet-ring cell adenocarcinoma, adenomalignum, villoglandular, papillary adenocarcinoma, endometroid adenocarcinoma and papillary serous adenocarcinoma.

Here the description of the adenocarcinoma of uterine-cervical foci of 62 years old posts. Menopausal woman with the lining squamosa showing dense chromatic inflammation is given. The endocervix shows marked proliferation of the glands. The cystic stroma shows dense lympho-plasmacytic infiltrate. The sections also reveal that endometrial tissue is replaced by a tumor arranged in a glandular or papillary or cribriform pattern with a lining of cuboidal or columnar anaplastic cells with vesicular hyperchromatic, mildly pleomorphic nuclei (**Figures 1 and 2**).

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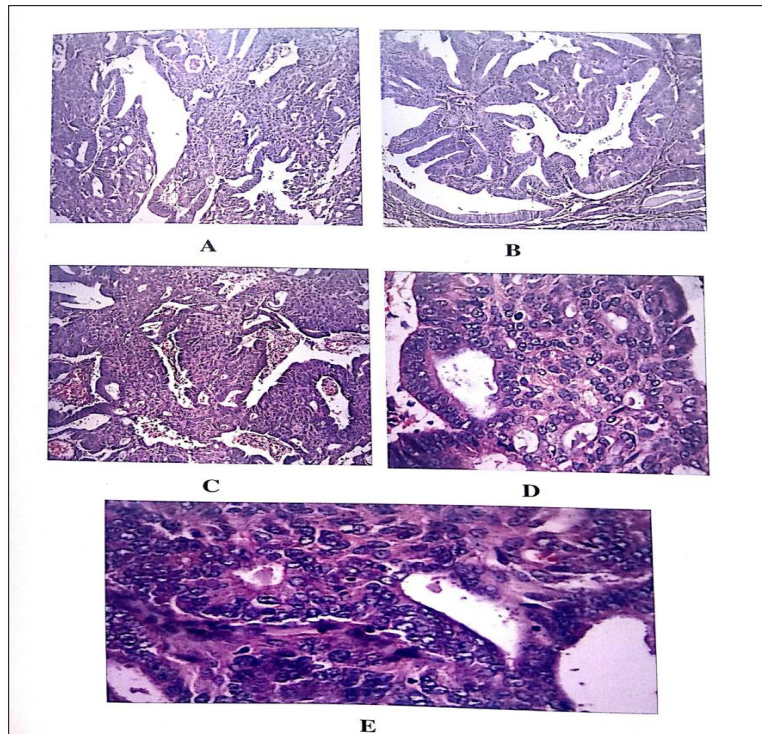


Figure 1. Adenocarcinoma with squamous metaplasia of cervix.

Marked acanthosis of living squamous epithelium; Marked proliferation of glands; Focal areas of squamous metaplasia

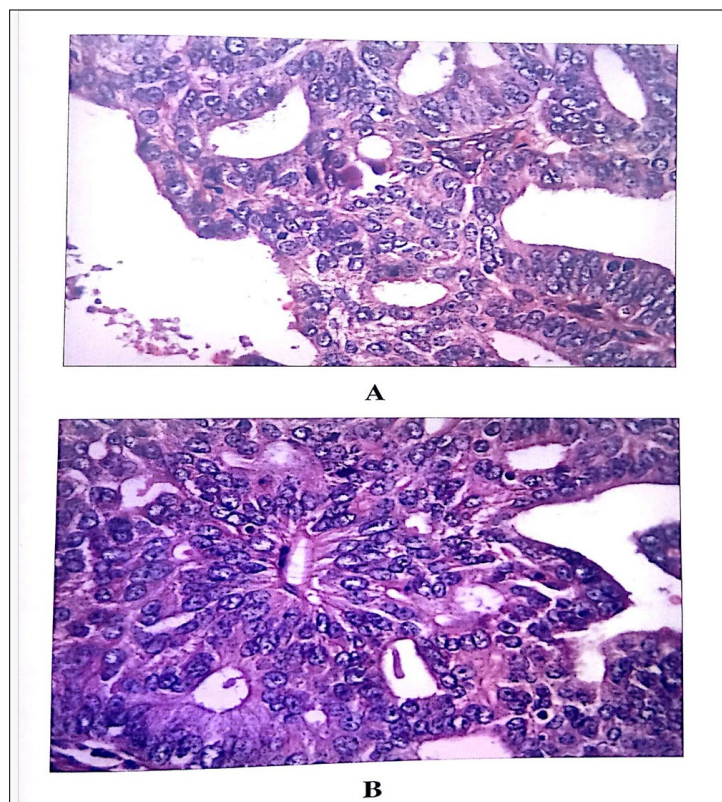


Figure 2. Adenocarcinoma A & B.

Adenocarcinoma showing glandular Anaplastic cells with vesicular hyperchromatic moderate pleomorphic nuclei

ETIOLOGY

The manifestation of malignant uterine cervical cancer is a slower process of transformation and the causes are much harder to pin down due to the long latent period between the initial and final stage of manifestation. However very reasonably attributed causes are the following:

Viruses

Viral infections such as Herpes simplex virus (HSV) and Human papilloma virus (HPV) which cause premalignant change and dysplasia of cervix. Studies have revealed that Human papilloma virus can induce centrosome duplication, genomic instability and centrosome abnormalities leading to cervical cancers. In this context female partners can acquire the virus through male's penile HPV infection, during coitus is of interest to mention [4,5].

Cholesterol

Cholesterol build up in blood and tissues is another cause for the uterine-cervical cancer. In our study, high percentage of cholesterol ranging from 47.57% to 85.02% was found in the uterine-cervical cancer tissue samples. Cholesterol derived estrogen causes endometrial hyperplasia and endometrial in situ carcinoma. Recent research in Simon Fraser University has revealed that cholesterol binding puts the brakes on oxosterol related proteins ability to couple phosphatidyl inositol-4-phosphate and accelerates cellular metaplasia and anaplasia [6].

Excess estrogen

Excess intake of estrogen over a long period of time can overstimulate the uterus lining (endometrium) and may cause an excessive thickening called endometrial hyperplasia which leads to cancer in susceptible women when left untreated. Estrogen prescription without progestogen in HRT proved dangerous [7]. Besides the above well-established etiological reasons, life style and socio-economic status of individuals and self-hygiene could be cited as enhancement factors.

PREVENTION

- In primary prevention the uterine-cervical cancer could be prevented by knowing the above mentioned causative factors and thereby eliminating them.
- By building the active immunity through vaccination as well as by nutrition and exercises.
- HPV are found to cause genital warts which implicate premalignant and dysplasia of the cervix. Going for treatment is suggested.
- PAP test will cause a dramatic fall in death rates in promiscuous women for cervical cancer. PAP smear test is a means of secondary prevention for cervical cancer.

- Upholding the eugenic principles of Francis Galton at socioeconomic level by creating a good eugenics and euphenics will add safety at societal level for women.

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