

An Unusual Presentation of Chondroid Metaplasia in Endocervical Adenocarcinoma: A Case Report

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Abstract

Cervical cancer is the fourth most common type of cancer in women worldwide with 85% of cases occurring in developing countries. Endocervical adenocarcinoma is ten times less frequent than squamous cell carcinoma; the most recent literature indicates an increase of three to four times in its incidence over the last few years. The main objective of reporting present case is to draw attention of an unusual presentation of chondroid metaplasia in endocervical adenocarcinoma in a 73 year old post menopausal woman because it is important to recognize the non-neoplastic nature of this condition and to differentiate it from malignant counterpart of the tumor. Hence, a careful clinical and histopathological examination is required to avoid the misinterpretation of non-tumor cartilaginous foci as a component of malignant neoplasm.

Keywords: Chondroid metaplasia, Endocervical adenocarcinoma.

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INTRODUCTION

Cervical cancer, is the second most common cancer in India with the age standardised rate (ASR) per 100,000 females being 22 and mortality of 20.7%, is the fourth most common type of cancer in women worldwide with incidence of 85% of new cases occurring in developing countries every year [1]. According to the World Health Organization (WHO) statistics, there are approximately 500,000 new cases registered each year out of which 250,000 cases are fatal [2].

Histologically, the most common type of carcinoma of cervix is squamous cell carcinoma followed by adenocarcinoma. There are various subtypes in adenocarcinoma including clear cell variant of adenocarcinoma, serous variant of adenocarcinoma, endometrioid adenocarcinoma, mesonephric adenocarcinoma, mucinous variant of adenocarcinoma (endocervical, intestinal, signet ring cell, minimal deviation, villoglandular), early invasive adenocarcinoma, adenocarcinoma in situ (AIS) and glandular dysplasia. Endocervical adenocarcinoma (EAC) is ten times less frequent than squamous cell carcinoma; however, the most recent literature indicates

an increase of three to four times in its incidence over the last few years [3, 4]. The EAC is a malignant neoplasm arising from the mucus secreting glandular cells of the endocervix. The purpose of publication of present case is to draw interest of an unusual presentation of chondroid metaplasia in EAC.

CASE REPORT

A 73 year old post menopausal woman was presented to the hospital with history of post menopausal bleeding since one month with abdominal and pelvic pain of increasing severity. Physical examination revealed lower abdominal tenderness without distension. There was no guarding, rigidity, palpable lump or organomegaly. Per speculum examination showed normal vagina with healthy cervix and per vaginum examination revealed bulky uterus. On radiological investigation USG whole abdomen showed bulky uterus with thickened endometrium and hyperechoic polypoidal growth in lower segment? neoplastic, Xray chest showed mild cardiomegaly and MRI pelvis showed bulky retroverted uterus with markedly thickened endometrium (1.9cm), a polypoidal growth in lower segment with multiple small leiomyomas and bilateral iliac lymphadenopathy- likely

neoplastic. Endocervical and endometrial curettings showed features of adenocarcinoma.

Patient underwent for staging laprotomy with radical hysterectomy and bilateral salpingo-oophorectomy. On gross examination, uterus with cervix measures 9x7.5x4.5cm. On cutting open, a polypoidal growth is seen at the level of internal os measuring 1.8x0.9x0.8cm. Cut surface of polyp showed few tiny cysts. Endometrial thickness measures 10 to 20 mm. Endomyometrium with serosa measured 2.3 to 4.0 cm. Bilateral ovaries, fallopian tubes and parametrium are unremarkable. Microscopic examination shows a malignant tumor arising from endocervical epithelium and infiltrating deeper stroma. Tumor is arranged to

form glands of variable shapes and sizes. Tumor cells are columnar, have moderate amount of eosinophilic or vacuolated cytoplasm and large pleomorphic and vesicular nuclei with clumped chromatin and prominent nucleoli in some nuclei. Many mitotic figures are seen. Perineural and lymphovascular emboli were seen. Tumor is extending to isthmus and uterine cavity. Tumor is infiltrating more than 50% of myometrial thickness. Tumor is multicentric. Polyp of endocervix also shows single focus of chondroid metaplasia. Both ovaries shows tumor deposits. Both fallopian tubes are unremarkable. Finally diagnosis of EAC, extending to isthmus and uterine cavity was made with TNM staging of p T2N0Mx.

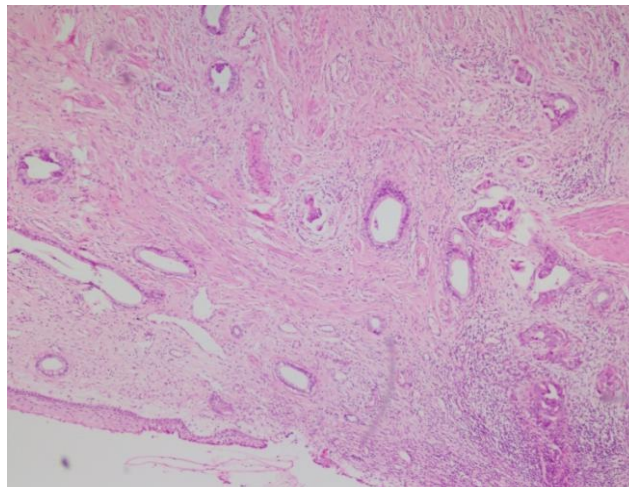


Fig-1: H&E stain of Squamo-columnar junction showing tumor infiltration (10x)

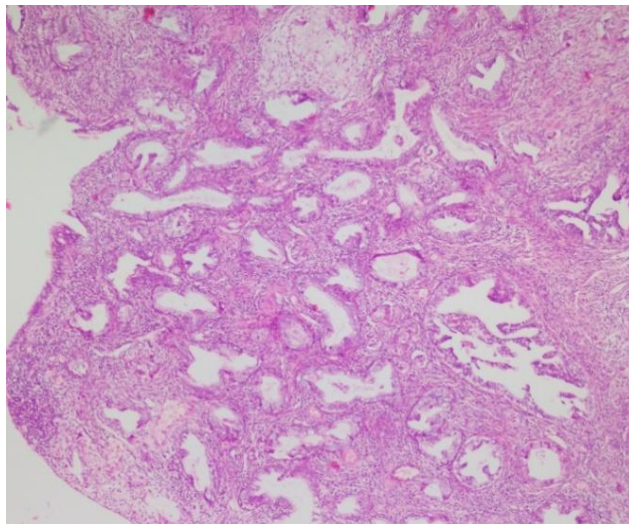


Fig-2: H & E stain showing polypoidal endocervical adenocarcinoma (10x)

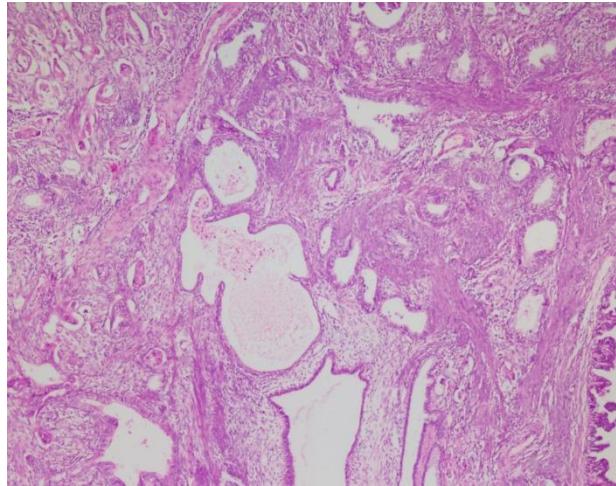


Fig-3: H & E stain showing cystic differentiation of endocervical adenocarcinoma (20x)

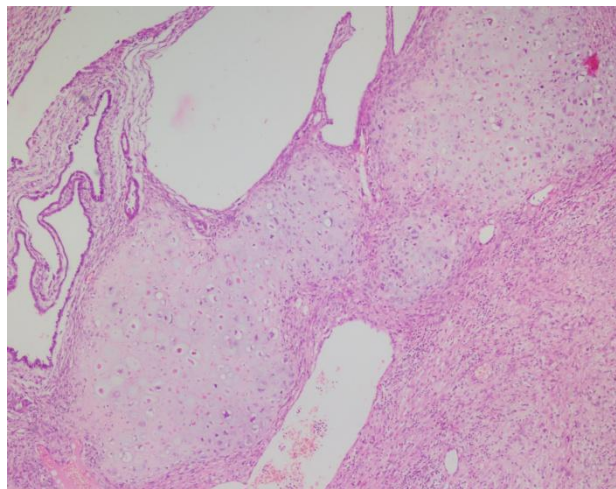


Fig-4: H& E stain showing chondroid metaplasia (20x)

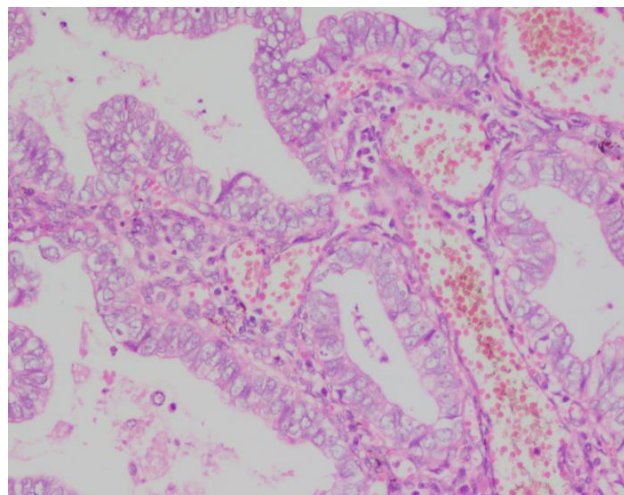


Fig-5: H& E stain showing endocervical carcinoma (20x)

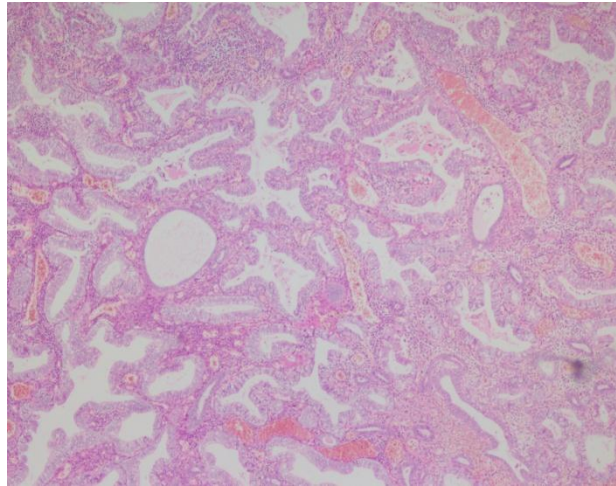


Fig-6: H& E stain showing endocervical adenocarcinoma (40x)

DISCUSSION

Cervical cancer is 2nd most common cancer and is the most common cause of cancer related death among females worldwide. Among cervical cancer, squamous cell carcinoma occupy 80% and rest 20% are adenocarcinomas. The present case is an example of mucinous variant of endocervical adenocarcinoma. The mucinous variant of EAC are generally accounts for 70% of all cervical adenocarcinomas. One of the previous study conducted by Barbu *et al.*, on clinico-morphological data of 16 cases of EAC showed that out of 16 cases, 10 cases (62.5%) were the mucinous type, and in these mucinous type, endocervical subtype was most commonly seen in 43.75% (n=7) cases [5]. The diagnosis of endocervical adenocarcinoma by gynaecological screening is difficult to accomplish in comparison to the diagnosis of squamous cell carcinoma. This is mainly due to the peculiar characteristics of the glandular endocervical epithelium, which hinders the access by the cervix brush, and the cellular monomorphic pattern, which making more difficult to diagnose adenocarcinoma precursor lesions [6].

The risk factors of rapid onset cervical carcinoma i.e. invasive cervical carcinoma occur within 3 years of a normal Pap smear examination and normal onset cervical cancer are usually similar. In the age group of 20-30 years, infections by some types of HPV, particularly HPV 18 is said to be responsible for the development of precursor lesions of the glandular epithelium in comparison to squamous cell lesions (usually more associated with HPV16). In the age group above 50 years, glandular lesions of the endocervix, and their etiology is not related to HPV infection, but usually related with an increase in the estrogen levels caused by post-menopausal obesity. The previous study conducted by Hildesheim *et al.* on 483 cases with the histopathological diagnosis of invasive cervical carcinoma concluded that rapidly onset cases of cervical adenocarcinoma tend to be higher in young females as compared to normal onset cases of cervical

adenocarcinoma. The authors detected HPV infection in 75.2% of cases and finally suggested that the cases who were positive for HPV type 18 stain infection had comparatively higher hazard for rapid onset disease [7].

The non accomplishment of cervical carcinoma screening programmes may add up to an important risk factors for the appearance of EAC's. The persistence of HPV infection, if they are not early detected, might be the trigger factor for the development of adenocarcinoma. Therefore, strengthening of sexual education programmes and raising awareness on screenings among adolescents as best preventive measures for these infections and, consequently, for the development of cancer [8]. But there are also few difficulties in the early detection of EAC. Kalir *et al.*, in their study examined all the cytological Pap smears and hysterectomy specimens of 53 cases with the final diagnosis of EAC's. They finally concluded in their study that a significantly higher proportion of EAC were not detectable by conventional Pap smear if the sampling from transformation zone was spared [9].

Chondroid metaplasia is usually known to occur in unusual sites of the body, such as deeper part of endometrium unrelated to fetal implantation [10] or in the head and neck region including the oral cavity, tongue, brain, pleura and breast, as a response physiological protective mechanism of the local tissue to injury or continuous irritation [11]. Several other pathological conditions are also noted in literature such as scar site, ongoing inflammatory processes in the tissue, within the old haemorrhagic focus of the tissue, and in any degenerative lesions, had been described in the literature with presence of metaplastic areas in the form of bone and cartilage formation [12]. Likewise, other conditions where chondroid metaplastic change had been reported such as in varicose veins, the blood vessels which are associated with atheromatous plaques [13], also in some benign tumors, such as pleomorphic

adenoma, lipoma, and chordoid glioma with chondroid metaplasia, in some malignant tumor, such as metaplastic breast carcinoma, uterine leiomyoma, renal cell carcinoma, malignant mixed mullerian tumor, lymphoma [14] and lung adenocarcinoma [15]. The current case is unique as, to our knowledge, there has been no reported case of EAC with chondroid metaplasia.

CONCLUSION

Stromal (cartilaginous) metaplastic changes are those conditions which repeatedly overdiagnosed and misdiagnosed in most of the cases. So, it is important for pathologist to recognize the exact non-tumorous nature of these metaplastic change and to differentiate it from their malignant counterpart. Hence, a careful clinical examination, radiological examination, gross examination and microscopic examination of histopathological specimen is usually required to avoid the misinterpretation or misdiagnosis of non-malignant counterpart of cartilaginous focus, which may be a component of malignant tumor. Therefore, we publish the present case with unusual finding of chondroid metaplasia in EAC. We will follow up the case and see any prognosis influence of chondroid metaplasia in these subsets of tumor.

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