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Case Report
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Vaginal Adenocarcinoma of Intestinal-Type: A Case Report

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Abstract

Purpose: Vaginal cancer is a rare primary vaginal carcinoma. It accounts for only 1% to 2% of all gynecological malignancies. They arise as primary squamous cell cancers or as a result of extension from the cervix or vulva. Primary mucinous vaginal adenocarcinoma of intestinal-type is of an unknown histogenesis.

Methods and Materials: This report presents a case of a 29-year-old Para 0 woman with the complaint of a mass in the vagina and recurrent vaginal bleeding. She was evaluated and worked-up for examination under anesthesia and biopsy of the vaginal mass.

Results: The histological examination confirmed an intestinal-type variant of adenocarcinoma of the vagina.

Conclusion: Recognition of this rare entity is important, particularly to avoid the pitfall of misdiagnosing metastatic disease as primary vaginal cancer.

Introduction

Intestinal-type adenocarcinoma is a rare primary vaginal carcinoma and considerably more uncommon than metastatic lesions which represent the most frequent malignancy at this anatomic site [1]. This malignancy creates a diagnostic dilemma for clinicians and histopathologists. We report a case of vaginal adenocarcinoma of intestinal type.

Case Presentation

A 29-year-old woman was seen at the outpatient department of a local hospital. She was found at that time to have an abnormal vaginal bleeding for one year and a painful vulvar mass. She initially had a Pap smear test which was unsatisfactory for evaluation due to the scant squamous component. Additionally, an Examination under Anesthesia (EUA) was also performed, which showed right sided, soft, friable mass that is 4 cm × 4 cm arising from the hymenal region extending to the lower third of the vagina. Bilateral inguinal lymph nodes were not palpable during the examination. On digital rectal examination there were no masses felt, and the rectovaginal mass septum was smooth. These examinations were followed by a biopsy at that institution which revealed a well differentiated adenocarcinoma.

As for her gynecological history, she was a nulligravida and was sexually active with one partner. She had no history of chronic irritation or previous surgical instrumentation of the vagina. She had no past medical or surgical history. Her social history was significant for smoking 2 packs of cigarettes a day since the age of 13, with occasional consumption of alcohol.

Clinical findings

During her current presentation a sterile speculum examination was performed, which confirmed a tight introitus and the tumor was palpable in the lower vagina. The mass was felt 4 cm from the lower vagina to the labia minora. The urethra and clitoris were clear and there were no signs of pelvic wall infiltration. The adnexa were free bilaterally. Patient refused a digital rectal examination.

Her laboratory tests including full blood count, urea and creatinine and serum electrolytes were all within normal limits.

Pathological findings

Specimen included fragments of adenocarcinoma with goblet cells. The tumor exhibited villoglandular type growth pattern and in some areas solid pattern. There was in one area with

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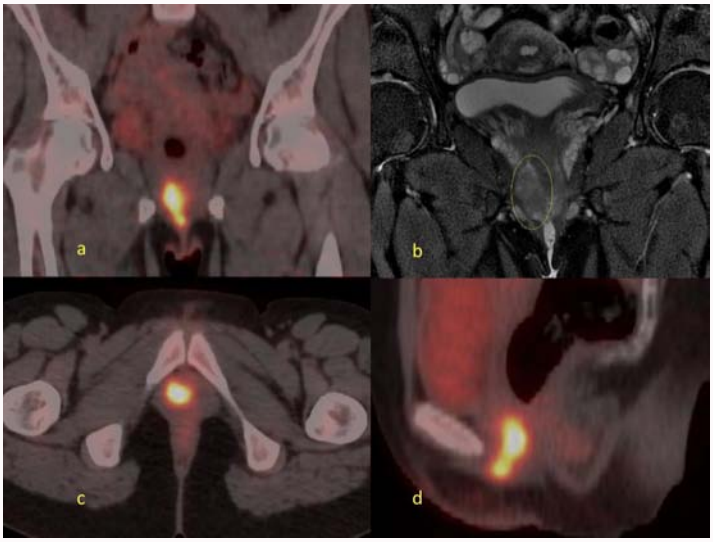

Figure 1: MRI T2 weighted axial (a) and Sagittal (b) views showing the vaginal mass marked by yellow arrows. Interstitial needles at Brachytherapy are marked with red arrow in panel c-d. Urethra is marked with green arrow.

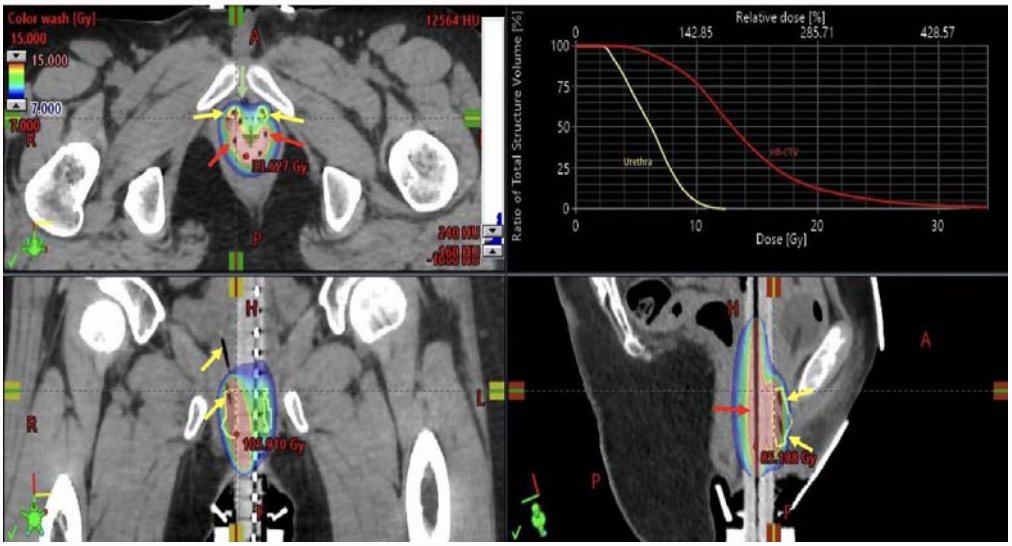

Figure 2: FDG PET-CT scan coronal (a), axial (c) and sagittal (d) views showing the vaginal tumor. Vaginal tumor shown (yellow circle) on coronal T2 weighted MRI (b).

squamous epithelium which was present with underlying glandular epithelium. Immunohistochemistry was performed at the reporting lab and they reported CK7 positive, CK20 negative, CDX2 positive, CEA positive, Vimentin negative, ER negative, P16 negative, and Ki-67 high. Final diagnosis was of well differentiated adenocarcinoma with goblet cells and mostly villoglandular type growth pattern.

She was counseled and advised on the need of further investigations including a positron emission tomography (PET scan) and a Magnetic Resonance Imaging (MRI scan) which she consented to undergo. The MRI scan (Figure 1) revealed a right vulvar lesion behind the inferior edge of the pubic symphysis which was a 12 mm ill-defined zone of low signal, both on T1 and T2, with very tiny specks and no contrast on enhancement. Findings were located on the posterolateral aspect on the right side of the clitoris. No abnormality involving labia majora. The urethral opening was uninvolved. No Abnormal lymphadenopathy in the region. The PET scan (Figure 2) revealed Fludeoxyglucose (FDG) avid vaginal malignancy. No definite evidence of FDG avid lymph node or distant metastasis. Based on the examination, imaging findings and the international Federation of Gynecology and Obstetrics (FIGO) staging system, the patient was diagnosed through a multidisciplinary meeting with stage 1B adenocarcinoma (intestinal-type mucinous carcinoma) of the vagina.

Patient was managed as a stage II clinically and was subsequently referred to the Oncology clinic for Chemoradiotherapy which consisted of brachytherapy and external beam radiation combined with a weekly dose of intravenous Cisplatin. High dose rate Brachytherapy (Figure 3) consisted of combination Intracavitary using vaginal multichannel applicator and interstitial needles to increase radiation dose to peri-urethral tumor. Patient responded well to the treatment, and on follow-up there was no mass on examination. She was asymptomatic with regards to pain, bleeding and treatment side effects.

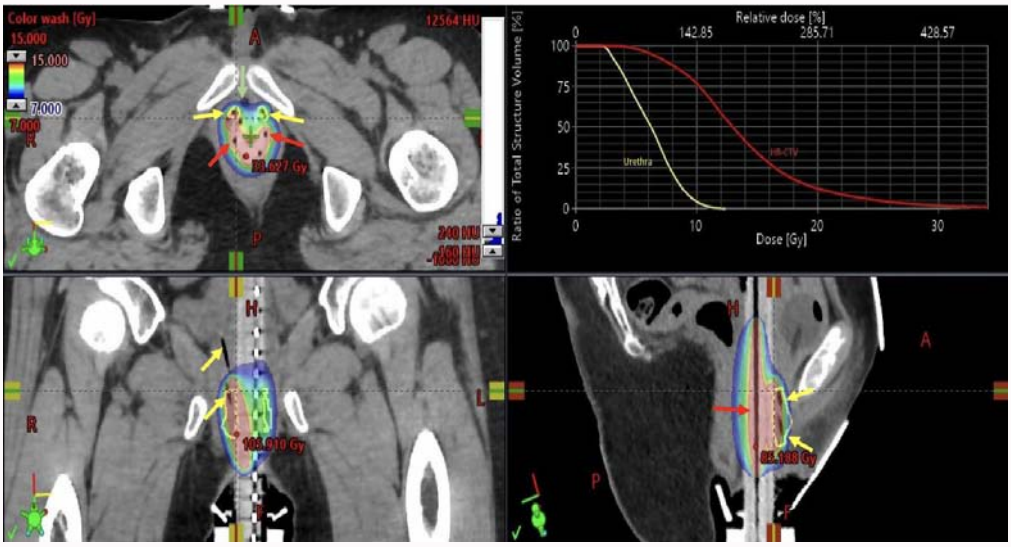

Figure 3: MRI based Image Adapted HDR Brachytherapy delivering target dose using multichannel applicator (red arrows) and interstitial needles (yellow arrows). Urethra (green arrow) is relatively spare.

Discussion

Primary cancer of the vagina is less common than uterine corpus, ovarian, and cervical cancer. Most vaginal tumors are squamous cell carcinomas, but melanoma, sarcoma, adenocarcinoma, and other histologic types also occur [2]. Although primary vaginal cancer is rare, metastatic disease to the vagina or local extension from adjacent gynecologic structures is not uncommon. As a result, the majority of vaginal malignancies are metastatic, often arising from the endometrium, cervix, vulva, ovary, breast, rectum, and kidney [3-6]. The histogenesis of vaginal adeno- carcinoma of the mucinous type remains unclear. Endocervical- type mucinous adenocarcinomas have been proposed to arise from vaginal adenosis and/or endocervicosis whereas the intestinal types, which histologically resembles mucinous colonic carcinomas. As the histogenesis of primary vaginal intestinal type adenocarcinomas remains uncertain, the finding of Skene duct metaplasia in association with invasive adenocarcinoma lends support to the origin of vaginal mucinous adenocarcinomas of intestinal type to be metaplasia, at least in some cases.

Such an origin accounts for the unusual immunohistochemically profile, which raises concern for a metastatic adenocarcinoma of gastrointestinal origin [7]. The mainstay of treatment for vaginal adenocarcinomas of all variants including the intestinal type is radiation therapy with external beam radiation and/or brachytherapy, as well as surgical excision in carefully selected cases [8].

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