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Mullerian Adenosarcoma, Essential Extra-Uterine and Extra-Ovarian: Review of the Literature

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Abstract

Background A 44-year-old woman with abnormal vaginal bleeding was admitted with müllerian adenosarcoma, presenting as a "benign cervical polyp" protruding through the vulva. In order to contribute to an earlier and more accurate diagnosis, this report emphasizes the significance of a thorough examination of the stroma and the unique characteristics of the entrapped glands. The tumor's probable histogenesis and differential diagnosis with embryonal rhabdomysarcoma (sarcoma botryoides), adenofibroma, malignant mesodermal tumor, and carcinosarcoma are discussed in light of the available research. The presence of endometriosis or sarcomatous overgrowth influences the biological behavior of extra-uterine mullerian adenosarcomas. These behaviors manifest in accordance with the histological characteristics and origin locations of the tumors. Because only a small number of cases of extra-uterine and extra-ovarian adenosarcoma have been reported in the literature, the most effective treatment and oncologic outcome have not been established. In order to clarify outcomes and identify the most effective treatment options, we present a case of primary peritoneal adenosarcoma with sarcomatous overgrowth and review all previously reported cases of adenosarcomas arising outside the uterus and ovaries.

Keywords: Vaginal adenosarcoma; Mullerian extra-genital; Mullerian extra-uterine adenosarcoma

Introduction

Mullerian adenosarcoma is a rare mixed tumor with a sarcomatous, typically low-grade stromal component and a neoplastic, benign, or mildly atypical epithelial component. Adenosarcoma occurs most frequently in the uterine corpus, but it can also occur in the cervix, ovary, vagina, fallopian tube, peritoneal surfaces, or outside the female genital tract, such as the intestine. Most uterine cases have a polypoid appearance, sometimes with multiple polyps. A low-power "phyllodes-like" architecture with leaf-like projections lined by a variety of benign Mullerian type epithelia, sometimes with squamous metaplasia, is one of the characteristic histologic features. A characteristic feature is the presence of intraglandular stromal protrusions [1]. The stroma might be consistently cell yet there is ordinarily expanded cellularity around the epithelial components, bringing about the development of a cambium layer. In accordance with the World Health Organization's definition, stromal mitotic activity of 2 or more per 10 high-power fields is required to diagnose adenosarcoma; however, in practice, the diagnosis is made even when stromal mitotic activity is lower than this, provided that the characteristic architecture and cambium layer are present. The "low-grade" stromal component is typically endometrial stromal or fibroblastic in nature and hormone receptor and CD10 positive. It may occasionally be of high grade and resemble undifferentiated sarcoma. Heterologous stromal elements and sex-cord-like differentiation are two additional characteristics that may be present. Low-grade uterine adenosarcomas are typically capable of local recurrence following polyp or hysterectomy and, much less frequently, distant metastasis. Deep myometrial invasion and sarcomatous overgrowth are the two most significant adverse prognostic factors, which sometimes coexist; The latter is typically associated with stromal elements that are morphologically "high-grade" and lack CD10 and hormone receptor expression [2]. Adenofibroma, in which the stromal component is, by definition, morphologically benign, is one of the main differential diagnoses for adenosarcoma, which can be confused with a variety of lesions. Notwithstanding, intermittent adenofibromas repeat or even metastasize. As a result, it has been proposed that all adenofibromas should be categorized as adenosarcomas, despite their low potential for malignancy. Because there is no anatomic barrier to peritoneal dissemination, ovarian adenosarcomas are much more likely to behave malignly than their uterine counterparts.

Background

Mullerian adenosarcoma (AS) is a rare mesenchymal and epithelial tumor with low malignant potential that typically affects women who are perimenopausal or postmenopausal [3]. It typically occurs in the uterine corpus. A blended cancer normally emerges as a single sore with a harmless yet some of the time abnormal glandular epithelium and poor-quality sarcoma, typically of the endometrial stromal type [4].

Typically, uterine AS exhibits clinical indolence, whereas AS with sarcomatous overgrowth is extremely aggressive , characterized by early recurrence and metastasis. A high-grade sarcomatous component in at least 25% of the tumor is a sign of sarcomatous overgrowth .For a case of primary peritoneal AS with sarcomatous overgrowth, we present the clinical data, preoperative imaging, pathological findings, and follow-up information. Additionally, we gathered reports of AS arising outside the uterus and ovaries by conducting a systematic literature review. Without making any distinction between the uterine corpus and cervix, the term "uterus" refers to the entire organ. By "extra-uterine," we mean any AS that occurs outside of the uterine corpus or cervix [5]. The time from the date of surgery to the date of death or the last follow-up was used to calculate overall survival (OS). The disease-free period from the

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time of surgery to the time of relapse or the last follow-up was used to calculate disease-free survival (DFS) [6]. The Log-Rank test was used to determine whether there were any differences in the survival curves using the Kaplan–Meier method.

Discussion

After clear cell carcinoma of the ovary, AS is the second most common gynecological malignancy in endometriosis patients . There was a 0.3% prevalence of AS in extra-ovarian endometriosis, according to a review of pathologic slides from 1000 surgically confirmed cases. Zanetta proposed in 2000 that endometriosis-associated carcinogenesis may be increased by chronic stimulation from either endogenous or exogenous oestrogen. Endometriosis is considered a favorable prognostic factor for this type of tumor, even though it may play a role in the formation of extra-uterine AS tumor DFS was higher in AS patients with endometriosis than in AS patients without endometriosis. Our patient was not found to have endometriosis. Pluripotent mesothelial and mesenchymal cells in the pelvic cavity may be the source of the tumor in cases of extra-genital AS that do not involve endometriosis [7,8]. Our patient presented with sarcomatous overgrowth and extra-genital AS. Sarcomatous overgrowth is associated with a poor prognosis for both uterine and extra-uterine AS and is characterized by the presence of a high-grade sarcomatous component in at least 25% of the tumor . Patients with sarcomatous overgrowth had a worse DFS in our review than patients without overgrowth, but the log-rank P value between the curves was not entirely significant . The most effective treatment for AS is surgery, particularly complete surgical resection. After receiving treatment, patients with extra-uterine AS remained disease-free and never relapsed. Patients who went through complete resection showed a preferable operating system dissemination over patients who went through fractional resection . There was no correlation between the type of resection and endometriosis, sarcomatous overgrowth, tumor size, or age. These findings necessitate additional verification due to the small number of patients who did not undergo surgical treatment.

Furthermore, it does not appear that bilateral salpingo oophorectomy increases survival. For uterine or cervical AS, premenopausal women may be able to preserve their ovaries. In fact, women with uterine AS who had salpingo oophorectomy in addition to hysterectomy did not have a longer survival time. Due to the large amount of missing data regarding postmenopausal status, this finding was not tested in our review.

Conclusion

Abnormal uterine bleeding is the most common symptom of adenosarcoma of the uterus. Misdiagnosis of younger patients is more common. Prognosis is closely linked to the patient's age and clinical stage. Chemotherapy may be helpful, but surgery is the main treatment. In conclusion, extra-uterine ascites, particularly those originating from extra-genital areas, are extremely uncommon tumors. They typically involve large polylobate masses that can easily spread to surrounding organs and blood vessels and are typically found in younger women than uterine AS. Endometriosis is a positive prognostic factor for extra-uterine AS, whereas sarcomatous overgrowth is a negative one; Due to the small number of cases included, we were unable to evaluate the heterologous sarcomatous elements' prognostic value. While adjuvant therapy does not appear to be effective in extending OS, surgery continues to be the primary treatment option, even though complete resection is not always possible. Due to the possibility of involving multiple organs, extra-uterine AS surgical treatment frequently necessitates extensive surgery. Additionally, because of previous endometriosis treatment, AS patients may require additional complications during surgery. To achieve radical treatment and reduce morbidity, patients should be centralized in qualified surgical oncological centers and operated on by experienced surgeons because surgery is the only treatment that has an impact on survival. Nonetheless, centralization might make it possible to recover clinical data and histological samples, which would allow for a revised and final diagnosis. A worldwide registry is urgently required to collect information about these rare AS to standardize treatment and obtain reliable prognostic data, given that fewer than forty cases have been reported in the literature in the past forty years.

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