**Case Series**

**Mullerian Adenosarcoma of the Uterine Cervix: Case Report.** Brazilian National Cancer Institute (INCA) — Rio de Janeiro, Brazil

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**Abstract**

**Introduction:** Cervical sarcoma is a rare neoplasm with incidence equal to less than 1% of total cervical malignancies. It is composed of benign glandular elements and malign stromal elements, justifying its name. When it appears in the cervix, it can be clinically confused with benign cervical polyps. Microscopic differentiation is decisive for treatment.

**Case presentation:**

**Case 1:** Eleven years old patient, white, without previous record of diseases, virgin. The patient exhibited hyaline vaginal secretion with fetid odor. Physical examination revealed pediculated polypoid lesion. No evidence of metastatic disease was found in image examination.

**Case 2:** Fifteen years old patient, black, without previous record of diseases, multiparous. The patient exhibited hyaline vaginal secretion with fetid odor. Physical examination revealed pediculated tumor injury in vaginal cavity descendant from the cervix. Both patients did not exhibit abdominal pain or distention and imaging did not reveal expansive pelvic process. Resection of the lesion along with a small fragment of the cervix was performed in both patients, and they remained healthy throughout the entire follow-up period of 2 years for the former and 10 years for the latter.

**Conclusion:** The müllerian adenosarcoma of the uterine cervix is an extremely rare pathology that can be underdiagnosed. Clinical presentation exhibited minimal differentiation between patients and, in the case of young girls with cervical polyps this neoplasm must be considered during differential diagnosis.

**ABBREVIATIONS**

MA: Müllerian adenosarcoma; MASO: Müllerian adenosarcoma with Sarcomatous Overgrowth; HPV: Human Papillomavirus; HTY: Hysterectomy

**INTRODUCTION**

Cervical sarcoma is a rare neoplasm with incidence equal to between 0.5 and 1% of all cervical malignancies. The tumor is composed of benign glandular elements and malign stromal elements, which justifies its name [1].

Müllerian adenosarcomas (MA) represent 8% of all uterine sarcomas [2]. A rare and aggressive variant of adenosarcomas is the müllerian adenosarcoma with sarcomatous overgrowth (MASO) of the cervix, which contains sarcomatous components of low or high degree [3]. The main difference from other types of adenosarcomas is the presence of characteristics from high degree of sarcoma present in MASO. This neoplasm is a biphasic tumor of the uterus and generally presents itself as a polypoid mass in the endometrial cavity. When it appears on the cervix it can be clinically and pathologically confused with benign cervical polyps. Therefore, microscopic differentiation is decisive for treatment [4,5].

In regard to tumor etiology, the human papillomavirus (HPV) does not seem to play an important role in the development of cervical adenosarcoma. The existence of an alternative histogenetic route is suggested for this rare kind of tumor [6].

**CASE PRESENTATION**

We performed a retrospective study at Brazilian National Cancer Institute, Rio de Janeiro, approved by the Ethics and Research committee of the institution, under number 607550:16.6.0000.5274.

Patients included must have histopathological confirmation of adenosarcoma during the period of 1997 to 2016. There were seven clinical cases identified registered with histopathological diagnostics of adenosarcoma. Five cases were excluded: one was
not a patient at the Brazilian National Cancer Institute (INCA) and the other four had the primary disease in the body of the uterus with the cervix suffering only of secondary invasion. Data was collected from patient medical records.

**Case 1**

The patient was eleven years old, white, without previous record of diseases, virgin, and exhibited hyaline vaginal secretion with fetid odor. Physical examination revealed a small pediculated polypoid lesion (2 cm).

The last performed examination was magnetic resonance imaging of the abdomen and pelvis in 2014, prior to withdrawal from monitoring. No pathological abnormalities were found. Monitoring was maintained for two years without clinical or radiological evidence of relapse. Monitoring was irregular, however, due to multiple appointment and examination rescheduling due to low patient compliance. The last appointment was in March of 2015, in which it was suggested the execution of new exams including hysteroscopy, however the patient did not follow through with monitoring.

**Case 2**

The patient was fifteen years old, black, without previous record of diseases, multiparous, and exhibited hyaline vaginal secretion with fetid odor. Physical examination revealed small pediculated tumor injury in vaginal cavity descendant from the cervix. It was 3 cm of larger diameter.

Both patients did not exhibit abdominal pain or distention and their computed tomography scans did not reveal expansive pelvic process or metastatic disease (Figure 1). Clinical examination revealed pediculated polypoid tumor injury in the vaginal cavity descendant from the cervix requiring resection of the lesion along with a small fragment of the cervix (Table 1).

Histopathological report of the lesion revealed for first case was heterologous cervical adenosarcoma with rhabdomyoblastic and chondroid differentiation, without myometrial and lymphovascular invasion. The second case was adenosarcoma with ulcerated polypoid cervical tumor without sarcomatous overgrowth, no rhabdomyoblastic and no chondroid differentiation, without myometrial and lymphovascular invasion (Figure 2).

Both patients remained healthy throughout the entire follow-up period, though case 1 patient had irregular monitoring, maintained only for 2 years because patient never return to hospital. Patient Case 2 was kept with monitoring for 10 years, with image examinations, laboratorial examinations and oncotic cytologies. The latter received medical release from the institution for outpatient monitoring from general gynecology specialty. In both cases the treatment performed was surgical resection of primary lesions, without adjuvant treatments. The patient of the first case did not perform adjuvant therapy because she did not follow up regularly. The second case had a closer observation.

**Table 1:** Clinical and pathological characteristics and outcomes observed during the follow-up period.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Case 1</th>
<th>Case 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Ethnic group</td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>Tumor size</td>
<td>2 cm</td>
<td>3 cm</td>
</tr>
<tr>
<td>TNM classification</td>
<td>1b1;0;0</td>
<td>1b1;0;0</td>
</tr>
<tr>
<td>Surgical treatment</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Outpatient follow-up</td>
<td>2 years</td>
<td>10 years</td>
</tr>
<tr>
<td><strong>Clinical/pathological symptoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyaline vaginal secretion</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Secretion with fetid odor</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cervical polypoides lesion</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Adnexal injury</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Fever (&gt;37.5°C)</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Note:** TNM classification: T – describes the primary tumor site; N – describes the regional lymph node involvement; M – describes the presence or otherwise of distant metastatic spread.

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Figure 1: Computed tomography scans evidencing the absence of distant disease and adnexal masses: A – absence of metastasis on the lungs; B – absence of metastasis on the liver; C – absence of adnexal masses. (Images obtained from presented cases).
DISCUSSION

Müllerian adenosarcoma is a neoplasm with benign glandular elements and malignant stromal elements. It is denominated heterologous if the bone, cartilage and striated muscle are present, and homologous if smooth muscle cells or fibroblasts are found. Overall 71% of adenosarcomas occur in the body of the uterus, 15% in the ovaries, 12% in the pelvis and only 2% in the cervix. It is known that the müllerian adenosarcoma with the cervix as primary site is a rare entity, data which is ratified in the present study as only two cases were identified in a period of 20 years. Among the cases of gynecological adenosarcoma compromising the cervix as primary site, one of them was heterologous [7].

Histological examination of the cervical adenosarcoma usually reveals glands with eccentric shapes and visible ramifications, with discrete periglandular cell struma, active mitosis of atypical stromal cells and coating epithelium exhibiting altered differentiation (most of which is ciliated or like endometrial epithelium). There may also be a gamut of atypical cells in the cellular stroma and mitotic indices. Heterologous components, notably cartilage and striated muscle, are occasionally seen in cases of younger women [8]. As described in case 2, the patient exhibited rhabdomyoblastic and chondroid differentiation.

Differential diagnostics of adenosarcoma includes benign polyp, adenofibroma, embryonic rhabdomyosarcoma and endometrial stromal sarcoma. In post-menarche adolescents these tumors initially appear as cervical polyps, whereas in post-menopause women they generally appear in the endometrium [9]. Both cases presented herein show the same clinical characteristics of tumor presentation, with polypoid lesions originating in the cervix.

Hysterectomy (HTY) is the main treatment for adenosarcoma, and with easier indication for adults with endometrial adenosarcoma. An apparent cervical tumor locally resectable in a woman whose fertility must be preserved is a difficult challenge. Jones and Lefkowitz [10] have presented the largest series of cervical adenosarcoma cases. Three of the twelve patients exhibited excisional biopsy and hysterectomy was performed in the others. The authors reported that the invasion of the deep myometrium was an important factor in prognosis [10,11]. In the cases presented here, the resection of the cervical polypoid lesions was performed by excision biopsy. The lesion resection was done considering the young age of the patients and, therefore, the intent to preserve fertility and because the patients did not exhibit clinical or radiological signs of relapse during follow-up monitoring and had low risk disease indicated by the absence of the myometrial invasion, sarcomatous overgrowth and lesion <5cm.

Endometrial adenosarcomas have been typically found in post-menopause women with average age of 58 years. On the other hand, cervical adenosarcomas tend to appear more frequently in younger women, with average age of 31 years. The most common presented symptom is abnormal vaginal bleeding (71%), menorrhagia or metrorrhagia. These tumors can present themselves as pelvic masses (37%), uterine polyps (22%) or enlarged uterus (22%). Pain, odor from vaginal secretion or symptoms of pelvic pressure are also reported [12]. Also in this study, performed by Buyukkurt et al. [12], the most common finding was tissue expelled by the external cervical orifice, giving the initial diagnostic impression of benign endocervical polyps. History of recurring polyps in clinical evaluation and pathological examination are common before the final diagnosis of adenosarcoma. The symptoms exhibited by this study’s patients were yellowed vaginal secretion with fetid odor as well as tumor manifested as cervical polyps.

Müllerian adenosarcoma without sarcomatous overgrowth are considered tumors with low chance of relapse (10-20%) and represent only 8% of all uterine sarcomas, usually from the uterine body and presenting itself as a polypoid mass protruding to the cervical canal. It is important to emphasize that only in mixed tumors both the epithelium as well as the mesenchymal components are malignant. Within adenosarcomas, the evolution of the two is antagonistic, that is, the glandular component exhibits real characteristics of benignity and the sarcomatous component of malignancy. Müllerian mixed tumors in the cervix, in comparison with those in the uterine body, are extremely rare. The literature emphasizes that adenosarcomas primary in the cervix can show in a frequency of 2 to 24 similar primary tumors in the endometrium [13].

The development of metastasis for cervical adenosarcoma without sarcomatous overgrowth is rare. The location in the cervix and the presence of heterologous elements are extremely uncommon and were reported originally by Roth et al. [14]. The malignant elements of the stroma can be homologous (fibroblasts...
or smooth muscles) or heterologous (cartilage, striated muscle or bone) and, due to the scarcity of reports and long-term monitoring, the biological potential of this tumor is still mostly unknown [8,15].

The majority of müllerian adenosarcoma happen within the uterine body of post-menopause women. The tumor rarely presents itself as a cervical lesion [16]. Jones and Lefkowitz [10], evaluated 12 cases and performed an additional literature revision of 12 additional cases and found an average age of presentation of 31 years, with a third of the patients below 15 years. The findings corroborate those in the present study, in which both cervical adenosarcoma cases were in young patients of 11 and 15 years.

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REFERENCES