Adenoid cystic carcinoma of the uterine cervix with pulmonary metastasis 11 years after radiotherapy: A case report

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Adenoid cystic carcinoma of the cervix is an aggressive tumor with fatal outcome. Only a few long-term survivors have been reported. It is an exceptionally rare tumor of cervix in the young patients below the age of 40 years, with only 10 cases reported in the literature. One such young patient, who was successfully treated with primary radiotherapy for stage III-b adenoid cystic carcinoma of the cervix at the age of 30 years and developed pulmonary metastases after remaining asymptomatic for 11 years, is presented in this case report. The diagnosis of pulmonary metastases was confirmed histopathologically by ultrasonography guided biopsy of one of the lung lesions. This is the longest ever reported disease-free survival for a patient with an adenoid cystic carcinoma of the cervix. The case is being reported for the rarity of adenoid cystic carcinoma of the cervix, especially in a young patient and for very late (>10 years) metastatic manifestation. [Turk J Cancer 2000;30(4):181-185]

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Adenoid cystic carcinoma (ACC) was first described by Billroth in 1856 and was called cylindroma because of its unique histological pattern. This rare tumor accounts for less than 1% of all carcinomas (1). It can arise in a variety of anatomic sites, such as minor and major salivary glands, lacrimal glands, mucous glands of the aero-digestive tract, skin, breast and lung (2). Adenoid cystic carcinoma arising from female genital tract is very rare and has been reported in the Bartholin’s glands and uterine cervix (3-5). It is an extremely rare tumor of the cervix and it represents less than 0.1% of all cervical cancers (4).
Case Report

In August 1988, a 30-year-old woman (G-5, P-5, A-0) presented with a two-month history of bleeding per-vaginum and mass inside the vagina. Her past menstrual cycles were regular. General physical examination was normal. Pelvic examination showed a cauliflower-like growth arising from the cervix and filling upper half of the vagina. The disease was extending up to lateral pelvic wall on either sides. Her routine laboratory investigations and chest X-ray were normal. Ultrasonography of the abdomen and pelvis revealed a big mass over the cervical region. There was no obstructive uropathy on sonographic evaluation. Histopathology report of the biopsy from the cervical mass showed characteristic cribriform pattern of an adenoid cystic carcinoma. The disease was clinically labelled as III-B (FIGO stage). The patient had an inoperable disease, thus she was planned for primary definitive radiotherapy. She received external beam radio-therapy to the pelvis by AP/PA portals on Cobalt-60 teletherapy unit (dose=48 Gy/20 fractions/4 weeks) followed by intracavitary radiotherapy (dose=25 Gy to point-A) by Caesium-137 electron machine. Following completion of the treatment, the lesion started shrinking and at 6-months of treatment, there was complete regression of the disease. The patient remained asymptomatic for 11 years, till July 1999, when she presented with complaints of dry cough and dyspnea on exertion. Systemic examination, including a gynecological evaluation was unremarkable. Chest X-ray (Figure 1) showed multiple soft tissue shadows in both lung fields. There was no pleural effusion. Ultrasonography guided biopsy (Figure 2) of one of the lung lesions was reported as metastatic adenoid cystic carcinoma similar to her primary disease in the cervix.

Fig 1. Chest X-ray (1999) showing multiple, bilateral metastases in the lungs from adenoid cystic carcinoma of cervix treated 11 years before by pelvic radiotherapy
Fig 2 (a,b,c). Photomicrograph of USG guided biopsy of the lung lesion showing metastatic adenoid cystic carcinoma [H&E x100 (a), x400 (b,c)]

Extensive work-up for other metastatic sites as well as clinical and radiological examination of the other common sites for adenoid cystic carcinoma (Parotid and submandibular salivary glands, oral cavity, pharynx, larynx, skin, breasts) was negative. As she had multiple lesions in her both lung fields, a course of palliative chemotherapy using cyclophosphamide and 5-FU along with supportive care was given. There was marked relief from the symptoms. The pulmonary metastases showed partial regression following 5 cycles of chemotherapy but after a few days, the disease again started progressing. The patient was terminally sick when last seen in January 2000.

Discussion

The first case of adenoid cystic carcinoma of the cervix was reported as cylindroma in 1949 by Paalman and Counseller (6). To date, approximately 150 cases have been reported in the world literature. The most accepted view regarding its origin in the cervix is from "reserve cells" of endocervix. Most of these tumors are found in multiparous women during their post-menopausal life.
Though, it has been reported from 24 to 99 years of age, majority of the cases have been reported during 7th to 9th decades of life (1,5,7-9). Despite the fact that cervical cancer is the most common malignancy in Indian women, only 19 cases of ACC of the cervix have been reported from India and majority of Indian patients were reported during 5th decade of their life (10-14). This difference in age group is similar to the observation in squamous cell carcinoma of the cervix, which is also seen two decades earlier in Indian patients than in other countries (10). Cervical ACC rarely occurs in patients younger than 40 years of age. Including the present patient, only 10 cases of ACC have been found in women under 40 years of age (7,10,12,15-17). Our patient is one of the youngest reported case of ACC of the cervix in the literature. She was 30 years of age when her primary disease in the cervix was diagnosed in 1988.

Metastatic pattern of ACC of the cervix is distinctive. Extensive local infiltration and invasion of lymphatic vessels as well as perineural spaces, with subsequent hematogenous spread are characteristic (1). Distant metastases have been reported in lungs, bones, liver and brain. (5,8). ACC originating from various other anatomic sites are known for their slow growth, late local recurrence as well as late distant metastatic presentation (2,18-19). Maximum interval between a primary treatment and pulmonary metastasis from a cutaneous adenoid cystic carcinoma (ACC) has been reported to be 18 years and the pulmonary metastases was also diagnosed by fine needle aspiration cytology similar to our patient (19). Our patient had multiple, bilateral lung lesions on chest X-ray, highly suggestive of secondary lesions rather than a primary ACC of the lung, which is usually a solitary mass. Moreover, the patient did not have any clinical or radiological evidence to suggest other location as a second primary site for ACC (parotid and submandibular salivary glands, oral cavity, paranasal sinuses and nasopharynx as well as larynx were negative for the presence of any growth). Examination of the skin and breasts was also negative. Thus, presence of multiple, bilateral lesions in lungs, previous history of similar histology at cervix and absence of lesion at other potential sites led us to believe that pulmonary lesions were metastatic ACC from the primary cervical lesion.

Surgery and radiation therapy either alone or in combination has been used in the treatment of ACC of the cervix. Chemotherapy has very little role in the management of these tumors but has been used for advanced/recurrent/metastatic disease without much success (4,5). It is an aggressive tumor and traditionally associated with poor prognosis resulting in death in 50-60% of patients and in almost all individuals with stage II disease or greater (20). Majority of deaths have been reported within two years of diagnosis. Prior to this report, only Musa et al (9) reported 11 years disease-free survival in one of their patients.

ACC of the cervix is an aggressive but radiosensitive tumor. In the present case, despite an advanced disease (stage III-b) at presentation in 1988, the patient had responded well to radiotherapy and remained asymptomatic for 11 years, when she developed pulmonary metastases. Other organs were not involved and the primary site at cervix was also under control. Among the documented cases, this is the longest interval reported for pulmonary metastasis from adenoid cystic carcinoma of the cervix. It is difficult to explain
the very long interval between the treatment of primary disease and diagnosis of pulmonary metastases in our patient. It could be due to the fact that majority of the reported cases of ACC of cervix were found in old age during 7th to 9th decades and did not survive such a long period of time. Only ten patients (including the present case) were young patients. Rarity of this event in cervical ACC deserves attention.

References