Gynecologic Oncology Reports 17 (2016) 7–11

Contents lists available at ScienceDirect

Gynecologic Oncology Reports

journal homepage: www.elsevier.com/locate/gynor

Case report

Mesonephric adenocarcinoma of the cervix: Case report and literature review☆

A. Dierickx *, M. Göker, G. Braems, P. Tummers, R. Van den Broecke

Department of Gynecology and Obstetrics, University Hospital of Ghent, De Pintelaan 185, 9000 Ghent, Belgium

ARTICLE INFO

Article history:
Received 16 February 2016
Received in revised form 27 April 2016
Accepted 4 May 2016
Available online 7 May 2016

Keywords:
Cervical cancer
Mesonephric carcinoma
Mesonephric adenocarcinoma
Adenocarcinoma cervix

ABSTRACT

A mesonephric adenocarcinoma of the cervix is a very rare tumor deriving from remnants of the mesonephric duct. Differential diagnosis from other cervical carcinomas is difficult and little is known regarding its biological behavior, prognosis, and the optimal management strategy. We present a case of a mesonephric adenocarcinoma of the cervix with a comprehensive review of the existing literature. In this case a 66-year-old woman presented with postmenopausal vaginal bleeding. She was diagnosed with a FIGO stage IIB mesonephric adenocarcinoma of the cervix and treated with neoadjuvant chemoradiotherapy and a Wertheim hysterectomy. The recovery from surgery was uneventful and the patient remains with no evidence of disease with 2 years of follow-up.

1. Case

1.1. Clinical presentation

A 66-year-old woman with no medical history presented with postmenopausal vaginal bleeding. In speculo a small punctiform orifice on the right side of the cervical ostium was observed. Transvaginal ultrasound revealed a mass of 2 by 2 cm in de right lateral cervical wall, palpable as a hard nodule without extension to the pelvic wall. Taking into consideration there was a mass in a suspicious-looking cervix an immediate conization was performed. The patient had a normal PAP smear 2 years before. The pathological examination of the conus revealed the presence of an invasive mesonephric adenocarcinoma of the cervix, characterized by infiltrating tubular structures containing eosinophilic, hyaline secretions in their lumens (Fig. 1A). The tubular structures were lined by cuboidal epithelium exhibiting mild to moderate nuclear atypia. Immunohistochemical stainings for PAX8, p16 and CD10 were positive (Fig. 1C).

There was extension of tumor cells in all resection margins. Magnetic Resonance Imaging (MRI) performed after the conization showed a mass in the right side of the cervix, measuring 38 × 35 × 38 mm, with extension to the uterus, the right parametrium and the upper part of the vagina (Fig. 2). These clinical findings corresponded with an International Federation of Gynecology and Obstetrics (FIGO) stage IIB.

A Positron Emission Tomography (PET) scan showed no evidence of pathological lymphadenopathies or distant metastases. The CA-125 blood serum level was normal.

1.2. Treatment

Given the presence of a bulky tumor with parametrial invasion, the patient underwent neoadjuvant chemoradiotherapy: 50 Gy (Gray) of Intensity Modulated Radiation Therapy (IMRT) in 25 fractions of 2 Gy daily and concomitant chemotherapy (Cisplatin) once a week. There was a limited reduction in size of the cervical mass to a volume of 37 × 23 × 30 mm. After the neoadjuvant therapy the patient underwent a type 2 Wertheim hysterectomy without pelvic lymphadenectomy.

Histopathologic examination confirmed the presence of a mesonephric adenocarcinoma, predominantly on the right side, however, with almost complete circumferential extension. The lesion measured 3 cm in greatest dimension. There was extension to the isthmus and the paracervical fat tissue. The resection margins were free of tumor.

The lesion stained for cytokeratin 7, EMA and vimentin. Stainings for calretinin, carcinoembryonic antigen (CEA), estrogen and progesterone receptor (ER/PR) were negative.

The final diagnosis was a mesonephric adenocarcinoma of the cervix, FIGO stage IIB. Tumor cells expressed p16, but chromogenic *in situ* hybridization did not demonstrate low- or high-risk Human Papillomavirus (HPV).

1.3. Outcome and follow up

The patient did not receive adjuvant therapy and she remains with no evidence of disease with 2 years of follow-up, with control visits every 3 months and MRI- and PET-scans every 12 months.

☆ The authors declare that there are no conflicts of interest. No financial support.

* Corresponding author.
E-mail address: anneloor.dierickx@ugent.be (A. Dierickx).

http://dx.doi.org/10.1016/j.gore.2016.05.002

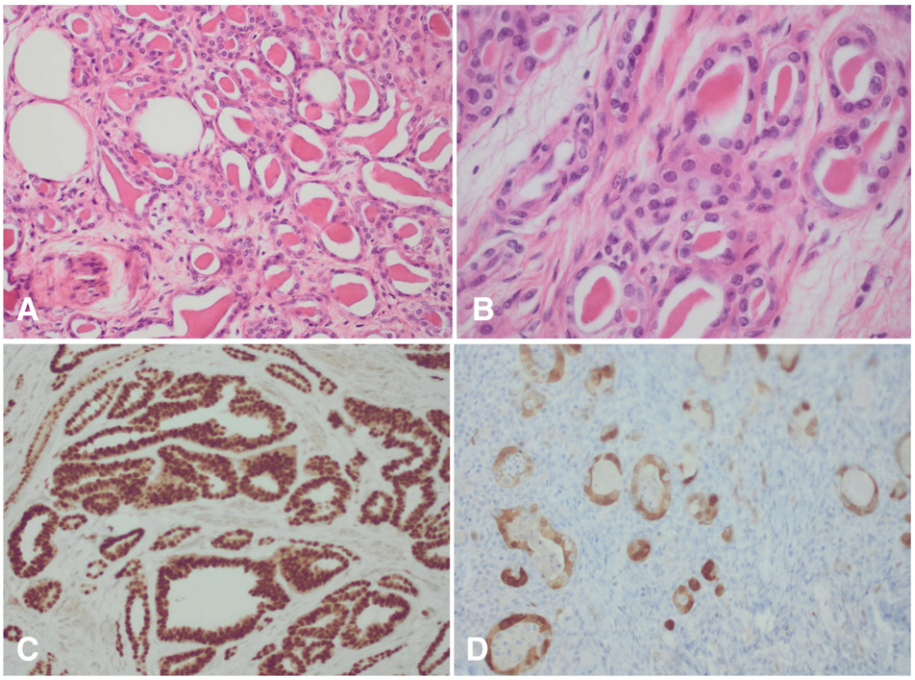

Fig. 1. A, The lesion shows infiltrating tubular structures containing eosinophilic, hyaline secretions (original magnification, ×200). B, The tubular structures are lined by cuboidal tumor cells demonstrating mild to moderate nuclear atypia (original magnification, ×400). C, The tumor cells show strong nuclear expression of the transcription factor PAX8 (immunohistochemistry for PAX8, original magnification ×200). D, There is nuclear and cytoplasmic expression of the tumor suppressor p16 (immunohistochemistry for p16, original magnification ×200).

2. Review of the literature

2.1. Definition

In order to understand the origin of this tumor we recapitulate the embryology in the supplementary material.

2.2. Incidence

To the best of our knowledge there are only 40 cases of this tumor reported in the literature to date, including present case (Table 2). The incidence of this neoplasm is uncertain since it is often confused with more common adenocarcinomas or mistaken for benign florid mesonephric hyperplasia (Hart, 2002; Ferry and Scully, 1990; Kenny et al., 2012).

2.3. Diagnosis

The mean age at the time of diagnosis was 52 years in this literature review. Unlike the more common squamous epithelial carcinoma, this type of cervical cancer is rarely discovered by PAP smear (Anagnostopoulos et al., 2012). Most patients present with abnormal vaginal bleeding, often with a visible cervical lesion (Hart, 2002). The diagnosis is usually made on biopsy specimens, endometrial curettings or hysterectomy specimens. A common finding on endometrial biopsy is a coexisting endometroid adenocarcinoma (Anagnostopoulos et al., 2012).

Most tumors exhibit a widely infiltrative and confluent pattern of growth and extension into the lower uterine segment is common (Nomoto et al., 2013). Because of the widespread distribution within the cervix at the time of diagnosis the initial site of origin in the lateral part of the cervix is often no longer apparent (Kenny et al., 2012), as was in this case.

2.4. Pathology

One of the most characteristic features of a mesonephric adenocarcinoma is that it exhibits a mixture of morphologic patterns. Therefore they are often confused with serous, clear cell or endometroid adenocarcinomas (Anagnostopoulos et al., 2012; Nomoto et al., 2013).

In this literature review 23% of the reported mesonephric carcinomas were associated with a spindled cell component (malignant mixed mesonephric tumor, MMMT). This is a biphasic variant of a mesonephric carcinoma with sarcomatoid features (Clement et al., 1995; Yap et al., 2006).

The typical background lesion of a mesonephric carcinoma is florid mesonephric hyperplasia, characterized by a densely eosinophilic luminal secretion (Menon et al., 2013). In contrast to mesonephric hyperplasia, a mesonephric carcinoma does not have a lobular architecture and the nuclei appear cytological malignant. The Ki-67 proliferation index is less than 1% in mesonephric hyperplasia compared to 15–20% in mesonephric carcinoma (Silver et al., 2001).

2.5. Immunohistochemistry

Given its potential mimicry of other neoplasms, immunohistochemistry can be helpful in the differential diagnosis (Table 1). Positive immunostaining for CD10, CK7 and calretinin along with a negative immunostaining for CEA is suggestive for a mesonephric origin (Silver et al., 2001). Mesonephric adenocarcinoma is also usually positive for epithelial membrane antigen (EMA) (Silver et al., 2001) and vimentin (Clement et al., 1995; Silver et al., 2001; Lang and Dallenbach-Hellweg, 1990) whereas ER/PR are usually absent (Silver et al., 2001). Mesonephric adenocarcinoma is one of the few subtypes of cervical cancer that is not related to HPV (Kenny et al., 2012).

PAX8 staining is usually positive in mesonephric carcinomas (Kenny et al., 2012; Fregnani et al., 2008). CA125 is also usually positive in