EJGO European Journal of Gynaecological Oncology

A mixed carcinoma of the uterus arising from an atypical polypoid adenomyoma: a case report

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Summary

An atypical polypoid adenomyoma (APAM) is a benign mixed epithelial and mesenchymal uterine tumor. Patients typically present with hypermenorrhea or abnormal uterine bleeding, and the tumor is most commonly found in nulliparous or infertile women of reproductive age. The natural pathological course of an APAM remains unclear because of the rarity of the disease. The coexistence or sequential development of low-grade malignant endometrial tumors has been reported; however, reports of a mixed carcinoma arising from an APAM have not been published yet. In this report, the authors describe the case of a woman with a mixed carcinoma of the uterus arising from an APAM. This case extends our knowledge of the natural pathological course of an APAM and its etiological relationship with a mixed carcinoma of the uterus, which may contribute to the development of management strategies for an APAM.

Key words: Mixed carcinoma; Atypical polypoid adenomyoma; Hypermenorrhea.

Introduction

An atypical polypoid adenomyoma (APAM) is a uterine tumor, most commonly seen in nulliparous or infertile women of reproductive age. Patients typically present with hypermenorrhea or abnormal uterine bleeding. Histologically, an APAM consists of admixed atypical endometrial glands and smooth muscle, and is classified as a benign mixed epithelial and mesenchymal tumor [1]. However, the occurrence of persistent or recurrent lesions, or a coexisting endometrioid carcinoma [2-4] indicates an APAM of low malignant potential (APAM-LMP). The natural pathological course of an APAM remains unclear because of the rarity of the disease, and, as a result, suitable therapeutic management strategies have not been established.

With regards to its malignant potential, the development of low-grade malignant lesions has been reported [5, 6]; however, reports of a mixed carcinoma arising from an APAM have not been published yet. Here, the authors describe the case of a woman with a mixed carcinoma of the uterus arising from an APAM.

Case Report

A 36-year-old nulligravida woman presented with hypermenorrhea and anemia at the present outpatient department. She was clinically diagnosed as having a submucosal uterine leiomyoma. A transcervical resection was performed, and histological examination revealed densely hyperplastic atypical endometrial glands, surrounded by hyperplastic smooth muscle in the stroma, leading to a

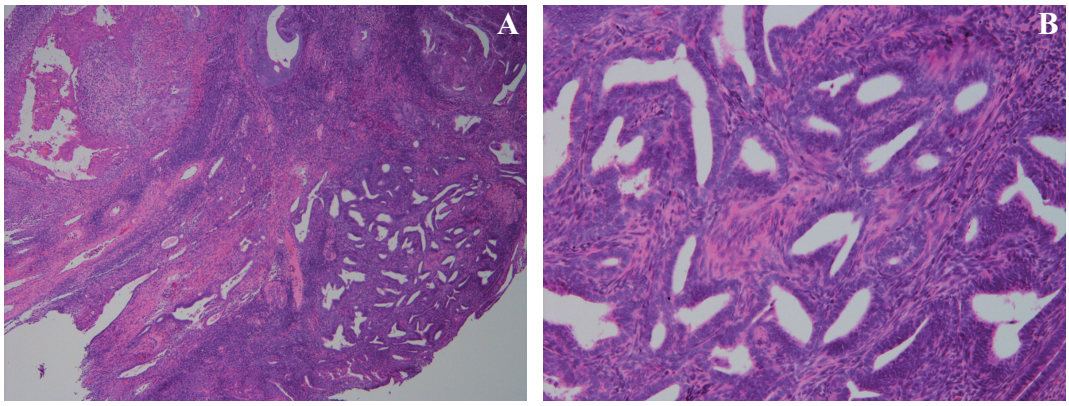

Figure 1. — Microscopic view of the atypical polypoid adenomyoma obtained from the first transcervical resection. Densely hyperplastic atypical endometrial glands, surrounded by hyperplastic smooth muscle in the stroma, are seen (a ×40, b ×200; hematoxylin and eosin stain).

Revised manuscript accepted for publication July 7, 2015

Eur. J. Gynaecol. Oncol. - ISSN: 0392-2936
XXXVII, n. 6, 2016
doi: 10.12892/ejgo3164.2016

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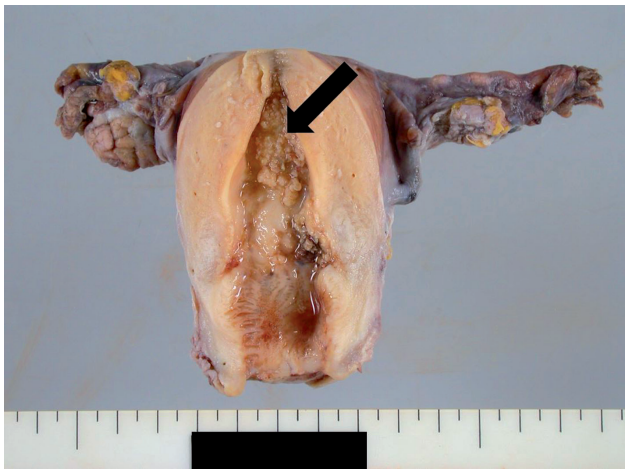

Figure 2. — Macroscopic appearance of the carcinoma. The residual polypoid tumors are seen (arrow).

diagnosis of an APAM-LMP (Figures 1a, b). Despite follow-up recommendations, she discontinued outpatient visits, and was seen at the present institution four years later, with a complaint of abnormal uterine bleeding. Dilation and curettage was performed, and histological examination showed an endometrioid carcinoma grade 1, with squamous differentiation. Magnetic resonance imaging showed myometrial tumor invasion. Abdominal total hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymphadenectomy were performed, with informed consent from the patient. Macroscopic examination of hysterectomy specimens showed polypoid tumors in the uterine fundus (Figure 2). Histological examination of the endometrium revealed a mixture of an infiltrative solid-pattern endometrioid carcinoma and a clear-cell carcinoma with hyaline globules and squamous differentiation, adjacent to well-differentiated smooth muscle cells (Figures 3a, b). On immunohistochemical staining, the myomatous stroma in the endometrium was positive for alpha-smooth muscle actin (ASMA) but negative for CD10 (Figures 3c, d). The absence of lymph node or distant metastasis, and negative peritoneal cytology indicated a diagnosis of a mixed carcinoma of the uterus International Federation of Gynecology and Obstetrics Stage IB. The postoperative course was uneventful, and following six cycles of adjuvant chemotherapy with paclitaxel and carboplatin, she remained in good health, with no sign of recurrence.

Discussion

To the present authors' knowledge, this is the first report to present clinical evidence of a mixed carcinoma of the uterus arising from an APAM. This case extends the knowledge of the natural pathological course of an APAM, and provides evidence of an etiological relationship between an APAM and a mixed carcinoma of the uterus.

Morphologic examination suggested a malignant transformation from an APAM to a mixed carcinoma, which was further proven with the results of immunohistological studies. CD10 has been reported as a useful marker in the di-

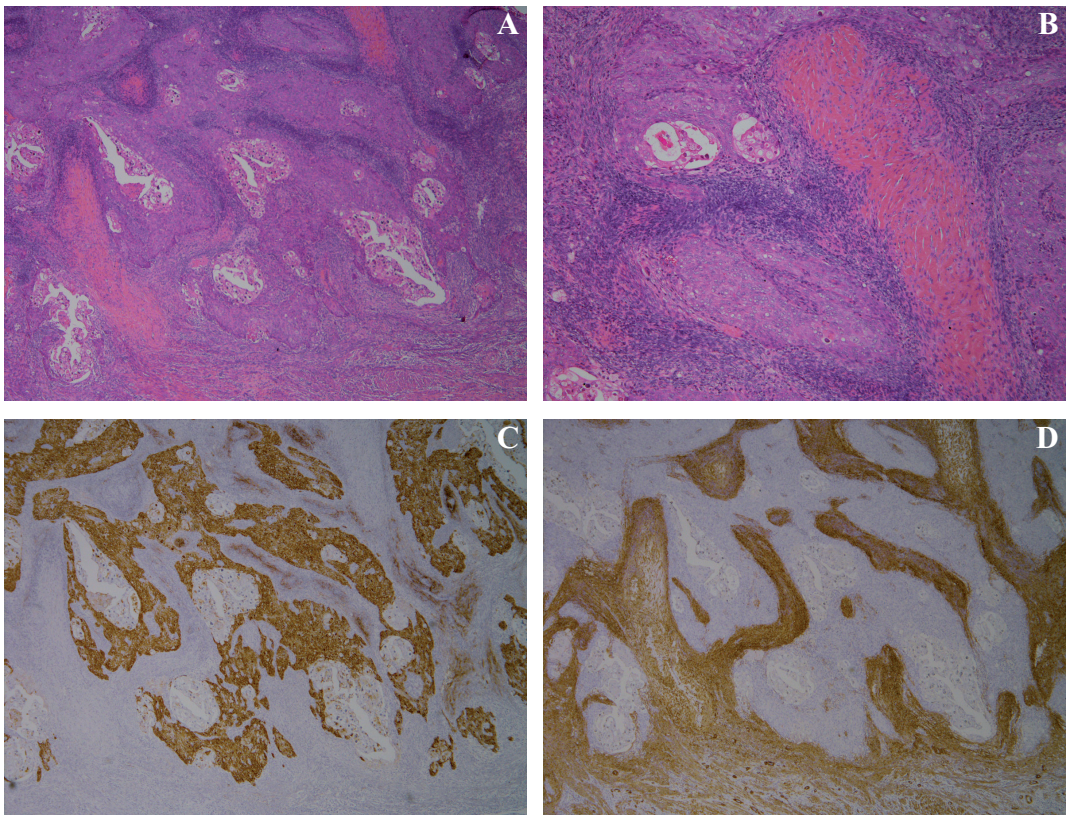

Figure 3. — Microscopic view of the carcinoma. In the endometrium, a mixed grade 3 endometrioid carcinoma and clear cell carcinoma are adjacent to the myomatous stroma of the APAM (a ×40, b ×100; hematoxylin and eosin stain). Immunohistochemical examination. The smooth muscle of the stroma is alpha-smooth muscle actin positive (c ×40) and CD10 negative (d ×40), indicating that the smooth muscle is not uterine smooth muscle invaded by the carcinoma, but rather the stromal component of the APAM.

agnosis myometrial invasion, because it is expressed during myometrial invasion by an endometrial carcinoma, but not in the stroma of an APAM [7]. Therefore, CD10-negative, ASMA-positive smooth muscle in the endometrium is considered to be a stromal component of an APAM. In the present case, the observation of a mixed carcinoma adjacent to CD10-negative, ASMA-positive smooth muscle strengthens the assumption that the mixed carcinoma sequentially arose from the APAM, and the epithelial component of the APAM was believed to be completely replaced by the mixed carcinoma.

Type II endometrial carcinomas, comprising of a grade 3 endometrioid carcinoma and non-endometrioid carcinoma account for 10–20% of endometrial carcinomas [8, 9]. These carcinomas often occur in older women, are high-grade, have a poor prognosis, and are not clearly associated with estrogen stimulation. The contribution of estrogen and progesterone stimuli to the development of an APAM has previously been suggested by immunohistochemical staining of estrogen and progesterone receptors [10]. Therefore, the present observation, suggesting a novel pathway to a type II endometrial carcinoma via an APAM in women of reproductive age, may be associated with estrogen stimulation.

This case increases our knowledge of the pathological course of an APAM by demonstrating that a type II endometrial carcinoma may originate from an APAM, as has previously been reported for a type I endometrial carcinoma. This knowledge may have a significant impact on the development of management strategies for an APAM, and a type II endometrial carcinoma arising from an APAM. However, as the number of reports regarding the natural course of an APAM is limited, an accumulation of case reports is needed for further evaluation.

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