

Endometrial involvement by intra-abdominal diffuse malignant mesothelioma

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Summary

A 49-year-old patient presented with an adnexal mass. Endometrial curettage showed a proliferative phase and suspicious fragment resembling Arias Stella reaction. Laparotomy revealed an extensive nodular intra-abdominal tumor involving the bilateral ovaries. Microscopic findings were similar to the suspicious endometrial fragment in the curettage specimen. Histochemical and immunohistochemical studies confirmed the diagnosis of diffuse malignant mesothelioma with metastasis to the endometrium. This is the first reported case to our knowledge in the English literature.

Key words: Endometrium; Mesothelioma; Metastasis.

Introduction

Metastases to the female genital tract often causes diagnostic problems for both the clinician and pathologist. The uterine corpus is not infrequently involved by direct extension of pelvic or extragenital neoplasia. However, metastatic tumor to the endometrium alone from a distant tumor is a rare finding. This is the first reported case of intra-abdominal diffuse malignant mesothelioma (DMM) metastasing to the endometrium based on our Pub Med search.

Case Report

A 49-year-old multigravida woman presented with lower abdominal pain and vaginal bleeding. Ultrasound showed bilateral ovarian masses and fluid in the pelvis. Histologic sections of the endometrial biopsy revealed a proliferative phase endometrium with a suspicious hyalinized stromal fragment, 3 mm in the greatest dimension, including atypical epithelial cells in glandular patterns (Figure 1). In minor foci at the periphery of this fragment there were spared endometrial glands. In some glands, epithelial cells were in a hobnail configuration (Figure 2). Three mitotic figures were seen in serial sections. Arias-Stella reaction was considered with metastatic adenocarcinoma in the differential diagnosis. Extensive nodular tumor involving both the ovaries, liver, colon, spleen and omentum was noted at laparotomy. Frozen section of the left ovary suggested ovarian clear cell carcinoma. Total abdominal hysterectomy and bilateral salpingo-oophorectomy with intra-abdominal debulking was performed. No gross tumoral evidence was noted in sections of the uterus, fallopian tubes, myometrium or endometrium. Mostly solid left and right ovarian masses were 4 and 5 cm in the greatest dimensions, respectively. Microscopic findings of both the ovaries and intra-abdominal tumor were very similar to the suspicious fragment in the curettage specimen. Histologic sections of the tumor nodules showed a tubulopapillary pattern composed of cells with large, rounded, fairly uniform and polygonal nuclei with a moderate amount of eosinophilic cytoplasm in the desmoplastic stroma. Bizarre nuclear features and psammoma bodies

were not seen. Histochemically both the endometrial fragment and intra-abdominal tumor stained positively for PAS and negatively for PAS-diastase and mucicarmen stains. Immunohistochemically both of them strongly reacted with vimentin, EMA and calretinin but did not react with S-100 or CEA (Figure 3).

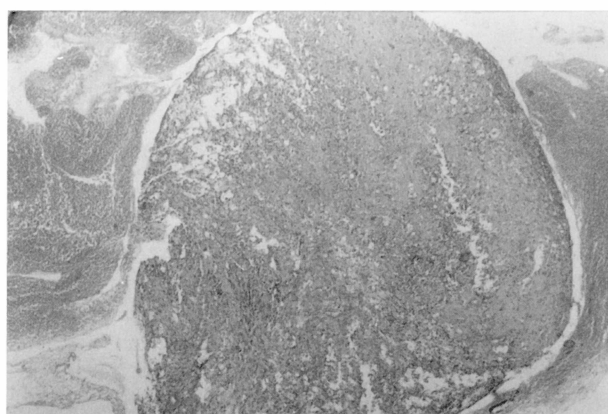


Figure 1. — Suspicious hyalinized stromal fragment including atypical epithelial cells in a glandular pattern (left) and spared endometrial glands (upper right).

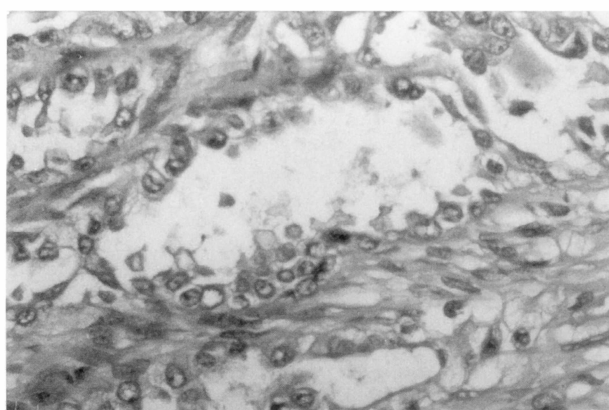


Figure 2. — In some glands epithelial cells were in a hobnail configuration.

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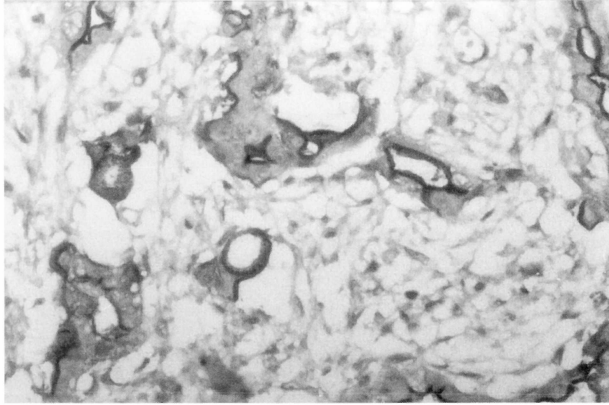


Figure 3. — Tumor cells react with calretinin.

Discussion

DMM of the peritoneal cavity, being much less common than its pleural counterparts, accounts for only 10%-20% of DMM. These tumors are particularly rare in women in whom the most common malignant papillary neoplasm of the peritoneum is extraovarian papillary serous carcinoma [1]. At lapotomy the viscera and parietal peritoneum are diffusely thickened or extensively involved by nodules and plaque. The viscera are often encased by tumor and may be invaded, although local invasion and metastases to the lymph nodes, liver, lung and pleura are less frequent than in association with carcinomas showing comparable degrees of peritoneal involvement. The histologic features are identical to DMM involving the pleura, except for a possibly lower frequency of biphasic and purely sarcomatoid tumors [1].

Isolated endometrial metastases in the absence of myometrial involvement are uncommon. When the endomyometrium is involved by a metastatic process, the tumor usually tends to infiltrate the stroma while preserving the endometrial glands and forms myometrial tumor nodules [2]. In this case there was no tumor nodule

in the myometrial sections. Extra-regional metastasis of DMM is usually via a hematogenous route. Although no evidence of tumor within the fallopian tubes was recognised, a transluminal passage of tumor cells seems to be the most probable route for endometrial implantation. The differential diagnosis includes primary ovarian serous carcinoma, primary peritoneal serous carcinoma, metastatic adenocarcinoma and DMM. PAS-diestase, mucicarmen, CEA and S-100 negativity with PAS, vimentin, EMA and calretinin positivity confirmed the diagnosis of DMM with endometrial metastasis [3, 4].

In conclusion, peritoneal DMM could be added to the list of tumors involving the ovaries and endometrium. When an intra-abdominal mass with a characteristic tubulopapillary pattern of growth in desmoplastic stroma with endometrial involvement is seen, intraperitoneal DMM should be considered in the differential diagnosis. Appropriate histochemical and immunohistochemical staining should be performed to distinguish this tumor from the various other neoplasms with which it may be confused.

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