Diagnosis: Endometrial polyp harboring metastasis of an occult lobular breast carcinoma in a patient with an undiagnosed breast cancer

Handout

Endometrial polyps are rare sites for metastatic breast carcinoma. Such cases have mostly been reported previously in Tamoxifen-related polyps. We report here a case of an endometrial polyp harboring a metastasis of breast lobular carcinoma in a postmenopausal patient with no history of breast carcinoma or Tamoxifen treatment. In addition, we review similar published cases and describe our series of 15 metastatic breast carcinomas to female genital tract including metastases to mucinous cystadenoma or mature teratoma of the ovary.

This menopausal patient with an unremarkable clinical history was admitted to the Gynecology Department for vaginal bleeding due to an endocervical polyp. Clinical and US examination revealed one polyp of 1 cm diameter located into the endocervical canal and a second polypoid lesion of 1.5 cm diameter occupying the uterine cavity. A dilatation and curettage was performed and both polyps were removed.

The endocervical polyp was composed of hyperplastic glands lined by columnar cells without atypia and surrounded by a fibrous stroma. The endometrial polyp had a mixture of endometrial glands with complex architecture, some of them with morules into the lumina and a dense cellular stroma with thick-walled vessels. In some areas there was slight condensation of stroma around the glands. In these areas, the stroma was replaced by nests of a monotonous small to medium size population of round/polygonal cells, with sharp cellular margins and abundant eosinophilic cytoplasm, reminiscent of decidual cells. However, some of these decidua-like cells had intracytoplasmatic lumina with eosinophilic secretion and some others a signet ring appearance. Several cells had high nuclear–cytoplasmic ratio and there were rare mitoses. Prominent nucleoli were noted in some cells and there was focal nuclear hyperchromasia. There was no inflammation or necrosis. The cells were negative for CD68, Vimentin, Calretinin and alpha-Inhibin but were strongly positive for EMA, CK 7, GCDFP-15 and HMW-CK with focal positivity for ER, PR, The cells were negative for E-Caderin and HER-2 was 1+ (negative). The morphology, along with the immunohistochemical findings despite the unremarkable clinical history, was in keeping with the diagnosis of metastatic breast carcinoma to an endometrial polyp. A mammogram performed after the diagnosis on the curettage revealed two nodules of 58 mm diameter and 12 mm diameter in the left breast. Biopsy was taken from both lesions and a multifocal grade 2 lobular invasive breast carcinoma associated with lobular intraepithelial neoplasia was diagnosed. She underwent total mastectomy with axillary dissection. All the 11 axillary lymph nodes removed were involved by breast metastatic disease.

Metastases in the female genital tract from a distant primary tumor are uncommon. When they occur, they frequently involve the ovary, where breast is the second primary most frequent source after the gastrointestinal tract. Other primary sites include lung, kidney, urinary bladder, pancreas, and gallbladder, as
well as cutaneous melanomas, carcinoid tumors, sarcomas, and medullary thyroid carcinoma. Among breast tumors, lobular carcinoma is the most common type metastasizing to the female genital tract.

Metastases to the uterus are rare, accounting for less than 10% of all cases of metastases to the female genital tract from extragenital cancers. When it involves the uterus, myometrium involvement is more often seen than metastases to the endometrium. Metastasis to an endometrial polyp is even rarer than metastases to normal endometrium. 15 cases of metastatic breast carcinoma to endometrial polyp have been described so far. Most of these cases were metastases from lobular carcinoma, but also a ductal carcinoma involving a polyp and metastatic apocrine carcinoma of the breast to a polyp was reported. Most of the patients are postmenopausal and usually, the patients present with vaginal bleeding. In the literature an association with Tamoxifen has been noted in several cases of lobular carcinoma metastatic to an endometrial polyp. These reports seem to suggest that lobular carcinoma may have a propensity to spread to Tamoxifen-related endometrial polyps. In the case we present here, no history of breast cancer or Tamoxifen treatment is known. The histological features of the polyp in our case closely mimicked those of Tamoxifen-related polyps, emphasizing the fact that although characteristic these features are not specific for Tamoxifen.

We also describe 15 additional cases of breast carcinoma metastatic to the female genital tract. In 2 of these cases, metastatic deposits were found in collision with mucinous cystadenoma of the ovary and mature teratoma of the ovary. In both cases, although a history of breast carcinoma was evident from the clinical history of the patient, the metastatic cells were initially misdiagnosed as luteinized stromal cells.

Metastatic breast cancer often poses diagnostic problems for both the clinicians and pathologist. This case, together with other cases from our series reiterate the need for careful evaluation of female genital tract lesions (including endometrial polyps), since inconspicuous deposits of lobular carcinoma can easily be missed. Incidental metastases may be the first manifestation of the breast carcinoma as exemplified by the present case, a fact not too uncommon. Differential diagnosis with plump endometrial stromal cells, decidual stromal cells, and inflammatory cell and remotely, with adenosarcomas should be made.

References:


2. Kumar A, Schneider V. Metastases to the uterus from extrapelvic primary


