Endometrial Carcinoma Presenting as Hematometra Mimicking a Large Pelvic Cyst

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ABSTRACT: Large pelvic cysts are commonly seen in gynecologic practice; their heterogeneous origin is reflected in their pleomorphic clinical features. We report the case of a 64-year-old multiparous postmenopausal woman with an unusual manifestation of endometrial adenocarcinoma that presented as hematometra mimicking a large pelvic cyst. In this case, hematometra was well demonstrated by transabdominal sonography, but transvaginal sonography allowed better visualization of the endometrial lining and suggested the correct diagnosis of endometrial cancer. Abnormal vaginal bleeding or hematometra in postmenopausal women should lead to assessment of the endometrial mucosa. Transvaginal sonography can be used to visualize neoplastic lesions in the endometrium when hematometra is detected through transabdominal sonography. © 1999 John Wiley & Sons, Inc. J Clin Ultrasound 27:541–543, 1999.

Keywords: hematometra; pelvic cyst; endometrial cancer; ultrasonography; radiotherapy-induced menopause; uterine fluid collection

Large pelvic cysts, commonly seen in gynecologic practice, can present a diagnostic challenge given their heterogeneous origin and their pleomorphic clinical features. Pelvic cysts can originate from the mesentery, peritoneum, omentum, lymphatic system, urinary tract, adnexal or nonadnexal organs. Rarely, pelvic cysts can be fluid-collecting masses within the endometrial cavity arising from an imbalance in fluid production and drainage from the uterus; such masses can contain blood (hematometra), water (hydrometra), or pus (pyometra). Hematometra can be caused by complications resulting from cone biopsy and hysteroscopic transcervical endometrial ablation, after which the cervical canal can become obliterated with subsequent hematocervix and hematometra. In young women, hematometra may be due to congenital anomalies such as an imperforate hymen or a noncommunicating müllerian duct. Rarely, hematometra can manifest as a pelvic cyst. We describe an unusual manifestation of endometrial cancer presenting as hematometra mimicking a large pelvic cyst.

CASE REPORT

A 64-year-old multiparous postmenopausal woman presented with a 10-day history of abdominal fullness and vaginal spotting. Sonographic examination revealed a 13-cm, anechoic pelvic fluid collection that was thin-walled and uniloculated (Figure 1). The patient had been given radiation to treat perimenopausal uterine bleeding approximately 20 years earlier. A pelvic evaluation revealed an enlarged uterus with an obliterated cervical canal. About 700–800 ml of serosanguineous fluid was drained from the uterus through a cervical sound, after which the cyst-like structure disappeared. Transabdominal sonography with a 3.5-MHz transducer (GE RT
fino; GE Medical Systems, Milwaukee, WI) revealed the uterus to be empty. However, transvaginal sonography with a 5-MHz transvaginal transducer revealed a 3-mm, double-layer, irregular peripheral endometrial lining and an 8-mm echogenic papillary projection inside the uterine cavity. Endometrial hyperplasia or malignancy was suspected (Figure 2). Sonographically guided diagnostic dilatation and curettage revealed a well-differentiated adenocarcinoma. Uterine fluid reaccumulated quickly thereafter.

The patient was admitted to the hospital, and abdominal and pelvic CT was performed for staging purposes. The uterus was found to be enlarged with thickened walls and filled with fluid and air bubbles (Figure 3). No enlarged lymph nodes were noted. The carcinoembryonic antigen level was 1.3 ng/ml (normal, < 3 ng/ml), the CA 125 level was 161.04 U/ml (normal, < 35 U/ml), and the CA 19-9 level was 230.62 U/ml (normal, < 37 U/ml). A total hysterectomy with bilateral salpingo-oophorectomy, pelvic lymph node sampling, and peritoneal washing were done. Pathologic evaluation revealed focal areas of papillary tumor involving the superficial myometrium; the fallopian tubes, ovaries, and surrounding lymph nodes were free of tumor. Surgical staging of the endometrial carcinoma was stage IB, grade 1. No evidence of recurrence was found during the 26-month follow-up period.

DISCUSSION

In postmenopausal women, hematometra is generally associated with cervical stenosis arising from aging, previous infection, radiotherapy, or a neoplastic lesion involving the cervix or lower uterine cavity. In our case, the endometrium undoubtedly was not completely ablated after radiotherapy, and the hematometra probably developed from endometrial proliferation with fibrosis and obliteration of the upper vagina and cervix. The delay in the development of the obstruction could have been due to progressive stenosis and eventual obliteration of the cervical canal. Although uterine adenocarcinoma has been reported after irradiation for cervical cancer or benign lesions, it is difficult to determine whether the uterine malignancy was a direct sequela of...
radiotherapy. Delay in the diagnosis of uterine tumors usually results from the absence of prominent symptoms, such as abnormal uterine bleeding.

Transabdominal sonography is a noninvasive imaging modality useful for examining occlusions in the genital tract. The presence of a fluid-filled endometrial cavity allows good sonographic visualization of endometrial abnormalities, although establishing the cause is usually difficult. Transvaginal sonography, on the other hand, allows better visualization of the endometrium in the presence of hematometra and therefore should be used to seek endometrial lesions when hematometra is detected through transabdominal sonography.

When adequate vaginal access is impossible because of severe vaginal stenosis, transperineal sonography can be used to visualize the lower genital tract.

The presence of uterine fluid collections in postmenopausal women is suggestive of uterine malignancy, although the degree of association varies among published studies. Breckenridge et al found that 16 (94%) of 17 symptomatic postmenopausal women with pelvic pain, vaginal bleeding, or pelvic masses had active carcinoma involving the uterus or cervix. However, Carlson et al identified only 5 cancers (2 ovarian, 1 tubal, 1 endometrial, and 1 cervical cancer) (25%) among 20 postmenopausal women with intrauterine fluid collections; the remaining women had benign gynecologic conditions. Sonographic findings such as a nodular or thickened endometrium and increasing volumes of fluid seem to correlate with the risk of gynecologic cancer. On the other hand, Goldstein found that a normal atrophic postmenopausal endometrium in association with cervical stenosis can produce uterine fluid collections in women without cancer and proposed that endometrial sampling under these conditions is necessary only when the endometrial layer surrounding the fluid collection is more than 3 mm thick on transvaginal sonography; anything thinner is invariably inactive.

In conclusion, the presence of abnormal vaginal serous or bloody discharge, with or without fluid collection within the uterus, in postmenopausal women should prompt assessment of the endometrial lining. Moreover, women with a history of radiotherapy-induced menopause should be instructed to report any vaginal bleeding. Once any of the above manifestations is found, uterine carcinoma should be considered unless proven otherwise. In such situations, transvaginal sonography should be used to visualize the endometrium.

REFERENCES