Given the extended survival of patients diagnosed with cervical cancer, a large number of women are treated with radiotherapy. A second primary cancer has currently become one of the most important radiation-induced injuries as the number of cancer patients who are cured is increasing by virtue of recent advancements in therapeutic radiology. A 56-year-old woman developed two pelvic malignancies 14 years after undergoing surgery and radiotherapy for adenosquamous cell carcinoma of the cervix. Previous exposure to radiotherapy is associated with certain malignancies, and review of the literature indicates that there is strong evidence to support such an association with bladder and ovarian cancer. This is the first reported case of second multiple primary malignancies (ovarian cancer and bladder cancer) after radiation therapy for adenosquamous cell carcinoma of the cervix.

Keywords: Radiotherapy; Uterine cervical cancer; Ovarian cancer; Urinary bladder cancer

CASE REPORT

A 58-year-old woman (gravida 4, para 4), visited our hospital for evaluation of a pelvic mass and hematuria, the onset of which was one month ago. Fourteen years ago, she received a transabdominal hysterectomy (TAH) with right salpingo-oophorectomy.
due to uterine myoma and severe dysplasia of the cervix, which was diagnosed by colposcopy guided punch biopsy. But the postoperative pathologic diagnosis was confirmed as adenosquamous cell carcinoma of the uterine cervix (International Federation of Obstetrics and Gynecology stage Ib) (Fig. 1), so the patient was treated with radiotherapy: external radiation (50.4 Gy) in 28 fractions and high-dose rate (HDR) ICBT (20 Gy) in 7 fractions over 2 months.

Recently, the patient had feelings of abdominal distension, low abdominal discomfort and hematuria. She was a non-smoker, and her family history of cancer was non-specific. Her vital signs were unremarkable, and on physical examination, there was abdominal distention with slight tenderness. An immobile, palpable abdominal mass which had an approximate size of a large fist was discovered, and was thought to be an omental cake mass or ovarian mass. Multiple papillary masses were found at trigone, right lateral and posterior wall of bladder by cystoscope. Transvaginal and transabdominal sonographies showed a large amount of ascites in the peritoneal cavity and perihepatic area, as well as a 6×5 cm-sized cystic pelvic mass at the left adnexal site. The differential diagnosis included ovarian cancer and metastatic cancer. We performed an abdomino-pelvic computed tomography (CT) with intravenous administration of a non-ionic iodinated contrast agent. The CT showed irregular nodular peritoneal thickening, an omental cake at the subhepatic and lower pelvic cavities, and a low-density elongated multiloculated cystic mass, about 5.9×2.2×4.9 cm in size, in the pelvic cavity (Fig. 2). It was suspected to be serous papillary adenocarcinoma with extensive peritoneal carcinomatosis in the left adnexa with huge amounts of ascites in the whole abdominal cavity. Laboratory tests showed no abnormalities in hematologic and biochemical data. Serum levels of the tumor markers cancer antigen (CA) 125, CA 19–9 and squamous cell carcinoma related antigen were 2,224.6 U/mL (normal range, 2.4–36.3 U/mL), 6.9 ngU/mL (normal range, 0–37 U/mL), 1.75 ng/mL (normal range, 0–1.5 ng/mL) and ascitic fluid level of carcinoembryogenic antigen was 0.8 U/mL, respectively. The CA 125 level was very high and the postoperative serum CA 125 level was 111 U/mL. Ascites fluid cytology was positive for malignant cells,