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Research Letter

# Isolated rectus abdominis muscle recurrence of endometrial cancer

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*Dear editors,*

We have recently experienced a case of unusual recurrence of endometrial endometrioid carcinoma (EEC) over rectus abdominis muscle. A 58-year-old women received laparoscopic staging surgery (Laparoscopic assisted vaginal hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph node dissection, para-aortic lymph node dissection, and washing cytology) for EEC 2 years before this presentation. The pathologic report revealed FIGO stage Ib grade 1 endometrioid carcinoma with presence of lymphovascular space invasion (LVSI). Due to her FIGO stage Ib grade 1 EEC with presence of LVSI, she received adjuvant external beam radiotherapy and brachytherapy. She had been disease-free for the last 2 years after the treatment course was complete. However, she experienced right upper abdominal pain with a hard mass formation. A CT scan of her abdomen revealed a 2.5-cm intramuscular nodule within rectus abdominis muscle, without invasion into the peritoneum (Fig. 1A, B). The tumor was 5 cm apart from nearest laparoscopic trocar site (Fig. 1C). CT scan including head, chest, abdomen and pelvis did not show other metastases. Surgical excision of the rectal muscle tumor (Fig. 1D) with synthetic mesh repair for the abdominal wall defect was performed. The pathologic report confirmed the diagnosis of recurrent EEC. The section margins were free and the tumor did not invade into the peritoneum. She received chemotherapy with paclitaxel (175 mg/m$^2$) and carboplatin (AUC: 5) for six cycles. She was disease-free 10 months after completing chemotherapy.

Patients with clinical stage I and stage II endometrial cancer have a recurrence rate of approximately 15% [1]. Typical sites of recurrence include the pelvis, pelvic and para-aortic lymph nodes, vagina, and lungs. Less common sites of recurrence include intra-abdominal organs, bones, brain, and muscles [2].

The most common etiology of abdominal wall muscle metastases is due to a surgical incision, regardless of the surgical approach (laparotomy or laparoscopy) and the exact mechanism of this event is usually through hematogenous dissemination to the site of recent trauma, seeding of neoplastic cells after direct contact between the tumor and the wound, effects of pneumoperitoneum, surgical technique, and local immune response [3]. Almost all cases reported in the literature were related to the surgical incisions.

However, our case was unrelated to the surgical site (Fig. 1C), so the possibility of surgical spillage or contamination could be excluded. Hematogenous spread of tumor cells into rectal muscle with tumor progression is the possible mechanism of this condition.

After literature review, isolated abdominal wall metastasis of EC was only reported in one article [3]. A mid-60s woman diagnosed with FIGO stage Ib endometrial adenocarcinoma received vaginal hysterectomy followed by vaginal cuff brachytherapy without chemotherapy. About 6 months after surgery, a painless abdominal wall tumor at the umbilical region measuring 10 × 9 × 9 cm was noted. She then received tumor resection followed by chemotherapy with paclitaxel and carboplatin. The patient was disease free 1 year after completion of chemotherapy.

Abdominal wall recurrence should be treated with aggressive resection with adequate clear margins [4]. When abdominal wall defects are large after tumor excision, surgeons should repair them with mesh reinforcement, component separation techniques or autologous flap repair [4]. After surgical resection, adjuvant chemotherapy with carboplatin and paclitaxel should be given because of the possibility of hematogenous tumor spread [5].

In conclusion, this case highlights an unusual presentation of isolated recurrence after treatment for EEC. Complete surgical staging combined with chemotherapy with paclitaxel and carboplatin resulted in a good outcome in our patient. Physicians should

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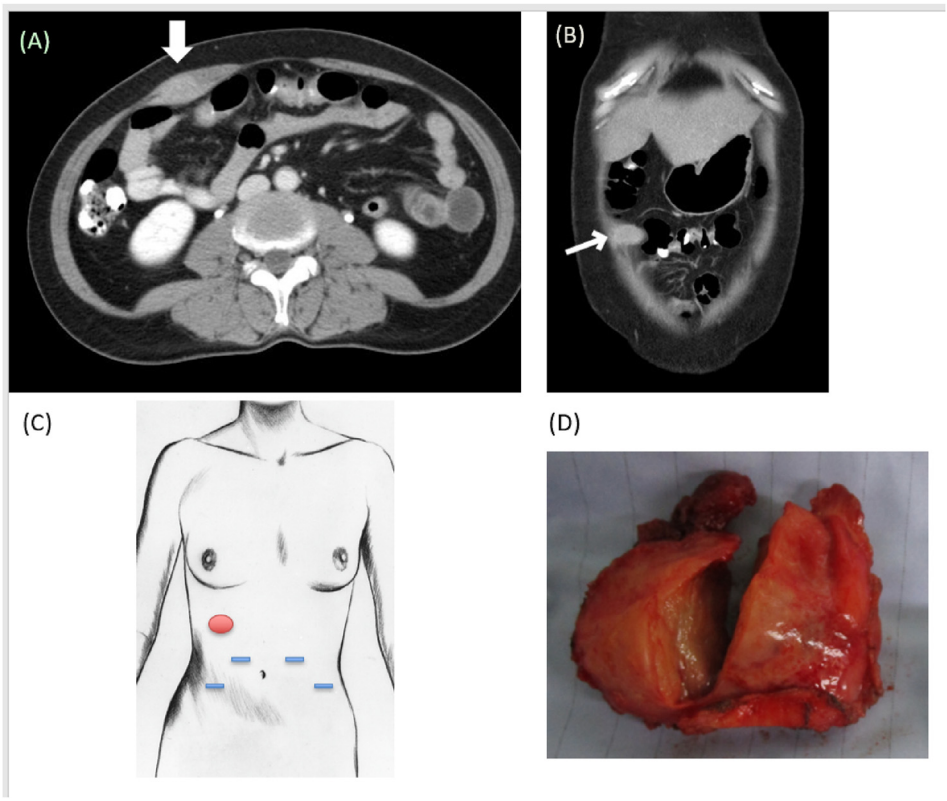


**Fig. 1.** CT demonstrated a 2.5-cm intramuscular tumor inside the rectus abdominis muscle (arrow). (A) Axial view and (B) coronal view. (C) Tumor location: the tumor (red) was unrelated to previous laparoscopic trocar sites (blue). Source: https://visualsonline.cancer.gov/details.cfm?imageid=1808. (D) Cross section of the tumor: the tumor is well-circumscribed, tan, solid and firm.

be aware of this rare condition of recurrent EEC to facilitate timely diagnosis and proper treatment.

## Declaration of competing interest

The authors declare no conflict of interest.

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