Clinical note

Splenic and multiple abdominal metastases of endometrial carcinoma detected with FDG-PET/CT

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A B S T R A C T

A 58 year old female was referred for FDG-PET/CT for restaging of endometrial adenocarcinoma. For evaluation of treatment, no metastases were detected on FDG-PET/CT which was performed 18 months later after the surgery. During follow-up, FDG-PET/CT was performed 6 months later than the previous FDG-PET/CT for restaging. A lesion with increased metabolic activity (SUV max: 10.21) was detected at spleen which was not seen on previous FDG-PET/CT scan. The lesion was consistent with metastasis of endometrial carcinoma.

Splenic metastasis of endometrial carcinoma is extremely rare. There are only 13 cases of splenic metastasis from endometrial carcinoma that reported in the literature before. There is only one splenic metastasis of endometrial carcinoma case reported in the literature which is imaged with FDG-PET.

To best of our knowledge this is the first report of solitary splenic metastasis of endometrial carcinoma that is imaged with FDG-PET/CT.

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Introduction

Endometrial carcinoma is the most common gynaecological cancer in developing countries. Because the majority of endometrial carcinoma are diagnosed at early stages, the overall prognosis is good. However, subgroups of patients have advanced primary disease or recurrences, after primary treatment.

We report an endometrial carcinoma case with solitary splenic metastasis which is the 13th case of literature. To best of our knowledge this is the first case of splenic metastasis of endometrial carcinoma detected with FDG-PET/CT.

Case report

A 58 year old female was referred for FDG-PET/CT for restaging of endometrial adenocarcinoma. Total abdominal hysterectomy, bilateral salpingo-oophorectomy, paraaortic lymph nodes dissection had been performed 26 months before for endometrial adenocarcinoma. After the examination of surgical specimen, the type of endometrial adenocarcinoma was consistent with endometroid type and left ovary invasion was reported by pathology. Thus, the stage of carcinoma was considered as IIIA by these findings. For evaluation of treatment, no metastases were detected on FDG-PET/CT imaging which was performed 18 months later after the surgery. During follow-up, contrast enhanced abdominal computed tomography (CT) was performed 6 months later than the last FDG-PET/CT. On CT (Hi-speed CT; GE Medical Systems, Milwaukee, WI, USA) imaging there was a mildly enhanced hypodense solid nodule 10 mm in diameter...
at the spleen paranchyme which was suggested for metastasis (Fig. 1). Paraceliac and peripancreatic lymphadenopathies were also detected on CT. By these findings, for searching any other distant metastasis, FDG-PET/CT was performed close to one month after CT.

The patient was fasted for at least 6 hours before 370 MBq (10 mCi) FDG injection. PET/CT scan was obtained 60 min after injection using an integrated scanner (Biograph, Siemens). Whole-body CT was performed without intravenous contrast administration with 130 kV, 50 mAs, a pitch of 1.5, a section thickness of 5 mm and a field of view 70 cm. PET scan was performed immediately after unenhanced CT, and acquired from the skull base to the upper thigh with a 3-min acquisition per bed position using a three-dimensional acquisition mode. On FDG-PET/CT a lesion with increased metabolic activity (SUV max: 10.21) was detected at the same location in spleen, which was not seen on previous FDG-PET/CT (Figs. 2 and 3). Also multiple peritoneal implants (SUV max: 9.8) and multiple lymphadenopathies located at paraceliac, peripancreatic regions and left supraclavicular region were detected. Because the splenic nodule with increased metabolic activity and all the lesions including lymphadenopathies and peritoneal implants were new findings and not seen on previous FDG-PET/CT, all of them were accepted as metastases of endometrial carcinoma.

Discussion

The spleen is an uncommon organ for metastases. The most common sources of splenic metastasis from solid tumors are breast carcinoma, malign melanoma and lung carcinoma. Ovarian carcinoma is the most common carcinoma in gynaecologic cancers that metastasize to spleen. The mechanisms of splenic metastasis may be several ways such as: direct extention, transperitoneal spread, haematogenous or lymphatogenous route.\textsuperscript{3,4}
Mostly splenic metastases are occured as a part of disseminated disease. Solid splenic metastasis mostly occurs by the hematogenous route, so locates in the splenic parenchyma. This pattern is in contrast to ovarian carcinoma which metastasizes by transperitoneal spread to the spleen.

Splenic metastasis of endometrial carcinoma is extremely rare. There are only 13 cases of splenic metastasis from endometrial carcinoma that reported in the literature before. Even they would be asymptomatic, the patients with splenic metastasis of endometrial carcinoma may present with left hypochondrial pain or splenomegaly.

Splenectomy should be performed in the patients of splenic metastasis to avoid potential complications of splenic metastasis such as splenic rupture, splenic vein thrombosis, painful splenomegaly and to prevent to be a potential source for metastasis. There is only one splenic metastasis of endometrial carcinoma case reported in the literature which is imaged with FDG-PET.

The limitation of the previous study is that there is no pathological confirmation of splenic metastasis. After a normal FDG-PET/CT examination, 6 months later, multiple new lesions with increased FDG uptake consistent with distant metastases were shown on follow-up PET/CT scan. SUV max values were high in these metastatic lesions.

To best of our knowledge this is the first report of solitary splenic metastasis in a patient with endometrial carcinoma that is imaged with FDG-PET/CT. Paraceliac and peripancreatic lymphadenopathies and splenic nodule were also detected on CT. But peritoneal implants were not reported on CT. Additional metastatic regions were detected on PET/CT scan.

References