Endometrial Cancer with Cervical Extension Mimicking Dual Concordant Endometrial and Cervical Malignancy by F-18 FDG PET and MRI

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A 35-year-old woman with endometrial cancer and cervical extension underwent F-18 FDG PET-CT [1–6] and MRI studies after resection of a cervical mass presumed to be cervical myoma. The patient underwent cervical myomectomy and the histopathologic report revealed poorly differentiated invasive carcinoma. Cervical cancer was ruled out because the patient had no history of sexual intercourse and was negative for human papilloma virus infection. The patient underwent radical hysterectomy, bilateral salpingo-oophorectomy, pelvic and para-aortic lymph node dissection, and multiple biopsies. F-18 FDG PET-CT (Fig. 1a–e) showed intense FDG uptake along the cervix wall. T2-weighted MRI (Fig. 1f, g) also revealed a mass lesion with high SI involving the anterior and posterior lips of the uterine cervix. Another area of focal increased uptake above the endometrial lesion in the left pelvic cavity was observed on PET-CT and MRI, possibly due to a functioning ovary. PET-CT and MRI were interpreted as showing a

dual concordant malignant lesion due to separated FDG uptakes and high SI without any connection between the cervical and endometrial lesions.

F-18 FDG PET-CT (Fig. 2a–e) showed intense FDG uptake along the endometrium. Given the patient's history and the fact that she was not menstruating at the time of imaging, this intense uptake was interpreted as another pathologic lesion, suggesting dual primary lesions. A suspected heterogeneous mass lesion along the endometrium suggesting concordant endometrial cancer was found on MRI (Fig. 2f, g). Endometrial cancer with cervical extension is sometimes difficult to differentiate from primary cervical cancer.

The final histopathologic report showed poorly differentiated endometrial adenocarcinoma with cervical extension, although the FDG PET-CT and MRI findings were suggestive of concordant cervical and endometrial cancer.

Although histopathologic confirmation is necessary for final diagnosis, MRI and FDG PET-CT studies may aid in the differential diagnosis. A metastatic cervical mass from endometrial cancer clinically presenting as cervical myoma is rare. This case suggests that poorly differentiated endometrial cancer may extend into the cervix, presenting as cervical myoma, and the possibility of a metastatic mass should be considered in the differential diagnosis when dealing with cervical myoma.

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Fig. 1 F-18 FDG PET-CT (a–e) shows intense FDG uptake along the cervix wall. T2-weighted MRI (f, g) reveals a mass lesion with high SI involving the anterior and posterior lips of the uterine cervix. Together, these images were interpreted as showing a dual concordant malignant lesion due to separated FDG uptakes and high SI without any connection between the cervical and endometrial lesions

Fig. 2 F-18 FDG PET-CT (a–e) shows intense FDG uptake along the endometrium. MRI (f, g) shows a suspected heterogeneous mass lesion along the endometrium suggesting concordant endometrial cancer

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