Interesting image

Incidental FDG uptake in bilateral salpingitis due to Morgagni cyst hydatids on PET/CT scan in a patient with solitary pulmonary nodule

Captación incidental de FDG en salpingitis bilateral debida a quiste hidatídico de Morgagni en PET/TC en una paciente con nódulo pulmonar solitario

N. Yildirim-Poyraz a,*, Z. Kandemir a, E. Ozdemir a, A.F. Avsar b, M. Keskin a, S. Turkolmez a

a Ankara Ataturk Research and Training Hospital, Department of Nuclear Medicine, Turkey
b Ankara Ataturk Research and Training Hospital, Department of Gynecology and Obstetrics, Turkey

ARTICLE INFO

Article history:
Received 1 April 2014
Accepted 14 April 2014
Available online 24 May 2014

A 38-year-old woman, gravida 3, para 3, was referred to our clinic because of a regular shaped 18 mm × 10 mm solitary pulmonary nodule (SPN) in the left superior lobe on her thorax CT (Fig. 1A). 18F-FDG PET/CT (Biograph 64; Siemens, Germany) scan was performed 1 h after an injection of 360 MBq of 18F-FDG with a blood glucose level of 5.8 mmol/L in order to identify whether the SPN was benign or malignant. A mildly increased 18F-FDG uptake (maximum standardized uptake value [SUV max]: 1.67) in

Fig. 1. Transaxial slices of CT and PET images of thorax (A and B) show a mildly increased 18F-FDG uptake in pulmonary nodule. Maximum intensity projection PET image (C) reveals intense hypermetabolic foci in the pelvic region and they remain in postvoiding delayed pelvic image (D).

* Corresponding author.
E-mail address: nypoyraz@yahoo.com (N. Yildirim-Poyraz).

2253-8089/$ – 2013 Elsevier España, S.L.U. and SEMNIM. All rights reserved.
the well-defined, peripherally calcified SPN was revealed (Fig. 1B). Bronchoalveolar lavage fluid revealed benign cytology in the case. $^{18}$F-FDG PET is a useful technique for characterizing SPN and provides accurate staging with whole body scan. However, $^{18}$F-FDG is not entirely specific for malignancy, and increased uptake could be seen in many other benign conditions, including inflammation or infection. Maximum intensity projection (MIP) PET images (Fig. 1C) showed intense hypermetabolic lesions in the pelvic region as well as in the SPN (arrow). Postvoiding delayed pelvic image was acquired to avoid misinterpreting physiologic FDG uptake as in the cases of gastrointestinal and urinary stasis. Focal intestinal $^{18}$F-FDG uptake in left abdominal region disappeared in delayed imaging, but irregular shaped, different sized hypermetabolic foci remained in the pelvis (arrows) (Fig. 1D). Therefore, she was referred to a gynecologist for further evaluation of her lower abdominal pain and suspicious bilateral adnexial pathology.

Transaxial slices of postvoiding delayed CT and fused PET/CT images of pelvis showed an intense hypermetabolism in the bilateral fluid-attenuation tubular lesions (SUVmax:17.02) (arrow) (Fig. 2A). Bilaterally hypometabolic cystic lesions were observed close to the hypermetabolic foci (Fig. 2B). Focal increased FDG uptake was noted in the area corresponding to the uterus and fused PET/CT image clearly showed the superimposition of the hot spot to the intrauterine device (IUD) in the uterus, probably due to a benign inflammatory reaction (Fig. 2C). Transaxial slice of tubal FDG uptake was also demonstrated in the

**Fig. 2.** Transaxial slices of postvoiding delayed CT and fused PET/CT images of pelvis showing an intense hypermetabolism in the bilateral hydrosalpingitis (A), and bilaterally hypometabolic cystic lesions (B). Focal increased FDG uptake due to intrauterine device in the uterus and transaxial slice of tubal FDG uptake in the posterior location of uterus are also demonstrated (C).
posterior location of the uterus as another hypermetabolic focus (Fig. 2C). Sagittal slices of postvoiding delayed pelvic PET and fused PET/CT images illustrated the continuity of FDG accumulations (Fig. 3A and B) which were visualized separately in transaxial slices. Transvaginal US showed hypoechoic tube-shaped, fluid-filled structures as well as paratubal cysts in the paraovarian region (C). The most common cause of hydrosalpinx is pelvic inflammatory disease; however, there was no systemic features or laboratory findings indicating infection in our case. The patient underwent laparotomy; bilateral hydrosalpinx and enlarged paratubal cysts (22 mm in right, 17 mm in left) were diagnosed, as well as normal bilateral ovaries during the surgery. Pathology revealed that chronic salpingitis with Morgagni cyst hydatids, lined by simple cuboidal epithelium, was located bilaterally at the fimbrial end of tubes. Paratubal cysts (PTCs) constitute about 10% of adnexial masses. Although they are not uncommon, they rarely cause symptoms and are usually found incidentally. Hydatid cysts of Morgagni are a specific variant of paratubal cysts, which is a remnant of the paramesonephric duct and connected to the fimbriae of the fallopian tubes. They are usually located unilaterally and cause symptoms in the case of hemorrhage, rupture, torsion or excessive growth.

Conflict of interest

The authors have no conflicts of interest to declare.

References