Interesting image

An unknown pregnancy at term detected by a FDG-PET/CT study in a patient with Hodgkin’s lymphoma: A case report

Embarazo a término desconocido descubierto por un FDG-PET/TAC en una paciente con linfoma de Hodgkin: presentación de un caso

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FDG-PET/CT is a well-established imaging modality in many cancer types, as for staging, restaging and evaluation of therapy response in lymphoma. However, in PET/CT scanning, radiation exposure to patients has become an important issue, particularly for pregnant patients, because its each component (PET and CT) is an independent source of ionizing radiation and consequently causes radiation dose burden for the patients.

A 35-year-old woman was diagnosed with nodular sclerosing type Hodgkin’s lymphoma and given four cycles of chemotherapy. After completion of chemotherapy, the patient was referred for FDG-PET/CT for restaging. Patient signed a given informed consent form in which she also stated that she had no pregnant but irregular menstrual periods and the last one was 1 week ago. Ninety minutes after injection of 555 MBq 18F-FDG, a PET/CT study with a non-contrast enhanced, low dose (120 kVp, 61 mAs) CT component was obtained from the head to mid-thigh.

During evaluation of PET/CT images, we noticed a bombshell gross mass appearance in the lower part of abdomen and pelvis representing a fetus in uterus, in spite of no detection of any abnormal FDG uptake related to residual primary disease (Fig. 1). The patient was questioned for possibility of pregnancy. However she answered negatively but she had irregular menstrual periods after the chemotherapy. When the CT report for initial staging was re-evaluated, no pregnancy was reported possibly due to early weeks of pregnancy. Also the patient, who had somewhat lower social and cultural standards, was 95 kg of weight and gave birth four times before.

Gynecological examination showed up a normal 34 weeks of pregnancy. The exposed radiation dose to patient was calculated as 26 mSv (15 mSv for FDG, 11 mSv for CT) with FDG PET/CT scan. The calculated fetal dose was under the 50 mSv that is the threshold value of fetal radiation dose for mental retardation and organ abnormalities in the literature. Moreover, the fetus was found to be healthy in the prenatal examination and no side-effect was found from chemotheraphy. Therefore, the pregnancy was not interrupted. The patient delivered a healthy baby boy at its term with a normal physical condition. He had a healthy grown up period and recently reached up an age of 8 years old without any medical problems.

PET/CT imaging in pregnant patients is still a debated issue due to its nature of causing ionization radiation. There are a few cases that reported about scanning in pregnancy with PET/CT. Our case can be remarkable as an unrealized late-term pregnancy detected with PET/CT scan and also received chemotherapy during pregnancy period. So it should be borne in mind that even by taking detailed medical history with questioning for pregnancy and giving informed consent form, rarely the pregnant patients can accidentally come up to the radiology and nuclear medicine departments for different ionization imaging protocols, like in our case. In that kind of rare conditions, radiation dose burden to the fetus should be evaluated considering the
Fig. 1. Coronal (upper row) and sagittal (lower row) PET/CT images demonstrated a fetus in the lower part of abdomen and pelvis. Fetal cardiac activity (long arrow) and renal activity (small arrow) are seen in the fusion images.

pregnancy period and deciding what to do together with family.

References

