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Images of Interest / Imagens de Interesse

^{18}F-FDG Uptake in Breast Tissue Related to Breastfeeding

Captação de ^{18}F-FDG no Tecido Mamário Relacionado com a Amamentação

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Abstract

A young patient underwent PET-CT with ^{18}F-FDG, which showed intense uptake of radiopharmaceutical in breast tissue related to breastfeeding. After stopping breastfeeding, the patient was again studied with PET-CT, with no evidence of breast uptake of ^{18}F-FDG.
As described in the literature, this case demonstrates intracellular FDG uptake in active glandular tissue, which remains even immediately after breastfeeding, suggesting that little ^{18}F-FDG is excreted in milk.

Keywords

PET-CT; ^{18}F-FDG; Breastfeeding.

Resumo

Uma jovem paciente foi submetida a PET-CT com ^{18}F-FDG, que evidenciou intensa captação do radiofármaco no tecido mamário, em relação com a amamentação. Após interrupção da amamentação, a doente foi novamente estudada com PET-CT, sem evidência de captação mamária de ^{18}F-FDG.
Tal como descrito na literatura, este caso demonstra a captação intracelular de ^{18}F-FDG no tecido glandular ativo, que se mantém mesmo imediatamente após a amamentação, sugerindo que pouco ^{18}F-FDG é excretado no leite.

Palavras-chave

PET-CT; ^{18}F-FDG; Breastfeeding.

A 28-year-old patient, currently breastfeeding, underwent a full body PET-CT study 1h after a 215MBq injection of ^{18}F-FDG for Hodgkin Lymphoma staging. PET acquisition was performed in 3D mode, 3min / bed and co-registration with low dose CT.
Uptake was observed in brown fat and intense bilateral and symmetrical uptake in the breasts; no pathological changes were observed.
She was later re-staged with ^{18}F-FDG PET-CT 6 months after finishing treatment, in which bilateral hypermetabolism in the breasts disappeared, in relation to the interruption of breastfeeding.
^{18}F-FDG uptake by the breast parenchyma includes invasive breast carcinoma, lymphoma, inflammatory pathology and the physiological process of lactation and breastfeed-ing, due to increased activity of the breast ducts.
As described by Hicks et al[1], there is diffuse and symmetrical uptake by breast glandular tissue in breastfeeding women; the incorporation and retention of ^{18}F-FDG in the breast is increased even immediately after breastfeeding, which suggests intracellular ^{18}F-FDG uptake in active glandular tissue. This means that most of the radiation exposure to the baby is related to close contact with the mother and not by ingesting the milk itself, as little ^{18}F-FDG is excreted in the milk.
For this reason, the ICRP[2] does not recommend stopping breastfeeding, but avoiding breastfeeding 12h after the injection of ^{18}F-FDG, to minimize the infants' external exposure to the radiation emitted by the mother.

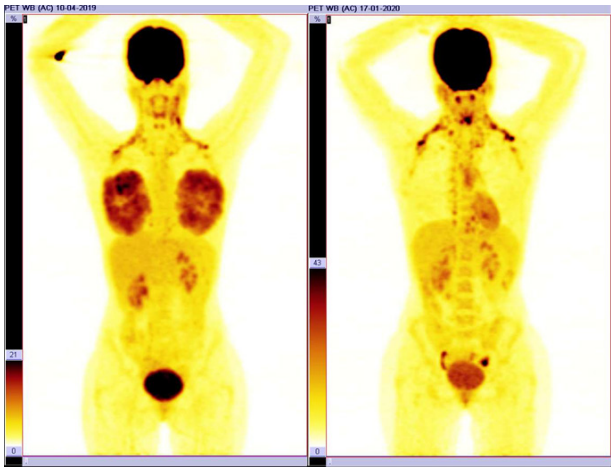


Fig. 1 – 18F-FDG breast uptake (left) vs no breast uptake after interruption of breastfeeding (right).

Ethical disclosures / Divulgações Éticas

Conflicts of interest: The authors have no conflicts of interest to declare.

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Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.

Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Protecção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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