PubMed

Format: Abstract

Rev Esp Med Nucl Imagen Mol. 2018 Aug 20. pii: S2253-654X(18)30150-1. doi: 10.1016/j.remn.2018.07.005. [Epub ahead of print]

Importance of ^{68}Ga-PSMA PET/CT in hospital practice. View of the radiation oncologist.

[Article in English, Spanish]

Couñago F[1], Artigas C[2], Sancho G[3], Gómez-Iturriaga A[4], Gómez-Caamaño A[5], Maldonado A[6], Caballero B[7], López-Campos F[8], Recio M[9], Del Cerro E[10], Henríquez I[11].

1 Departamento de Oncología Radioterápica, Hospital Universitario Quirónsalud Madrid, Hospital La Luz, Universidad Europea de Madrid, Madrid, España. Electronic address: felipe.counago@quironsalud.es.
2 Departamento de Medicina Nuclear y Terapias Metabólicas, Jules Bordet Institute, Bruselas, Bélgica.
3 Departamento de Oncología Radioterápica, Hospital de la Santa Creu i Sant Pau, Universitat Autònoma de Barcelona, Barcelona, España.
4 Departamento de Oncología Radioterápica, Hospital Universitario Cruces, Biocruces Health Research Institute, Barakaldo, España.
5 Departamento de Oncología Radioterápica, Complexo Hospitalario Universitario Santiago de Compostela, La Coruña, España.
6 Departamento de Medicina Nuclear, Hospital Universitario Quirónsalud, Madrid, España.
7 Departamento de Oncología Radioterápica, Hospital Universitario de Fuenlabrada, Madrid, España.
8 Departamento de Oncología Radioterápica, Hospital Universitario Ramón y Cajal, Madrid, España.
9 Departamento de Radiología, Hospital Universitario Quirónsalud, Madrid, España.
10 Departamento de Oncología Radioterápica, Hospital Universitario Quirónsalud Madrid, Hospital La Luz, Universidad Europea de Madrid, Madrid, España.
11 Departamento de Oncología Radioterápica, Hospital Universitario de Sant Joan, Institute d'Investigació Sanitària Pere Virgili (IISPV), Reus, España.

Radiotherapy is a treatment with curative intent, both in patients with primary diagnosis of prostate cancer (PCa) and in patients presenting with biochemical recurrence after radical prostatectomy (RP). Moreover, the use of stereotactic body radiotherapy as a metastasis directed therapy in patients with oligometastatic PCa has significantly increased in the recent years. Conventional imaging techniques, including transrectal ultrasound, computed tomography (CT), morphologic magnetic resonance and bone scintigraphy have traditionally played a minor role in all those clinical scenarios due to its low diagnostic accuracy. The recent development of the positron emission tomography (PET) radiotracer ^{68}Ga-PSMA binding to the prostate specific membrane antigen (PSMA), a transmembrane glycoprotein overexpressed in PCa cells, has shown promising results. Detection rates for PCa lesions are higher than CT

and higher than the best technique available, the PET/CT with choline. Its superiority has been demonstrated even at very low PSA levels (<1 ng/ml). This increase in diagnostic accuracy represents a potential impact on patient management, especially in radiotherapy. Even if this imaging technique is already available for routine clinical practice in some European countries, in Spain, unfortunately, there is very limited access. In this review, we analyze the main studies that investigate the usefulness of ^{68}Ga-PSMA PET/CT in patients with PCa and its potential impact on radiotherapy treatments. In addition, we compared the ^{68}Ga-PSMA PET/CT, with the multiparametric magnetic resonance imaging and the PET/CT with choline, in the different clinical scenarios.

KEYWORDS: Choline-PET; Cáncer de próstata; Multiparametric MRI; PET-PSMA; PET-colina; PSMA-PET; Prostate cancer; RM multiparamétrica; Radioterapia; Radiotherapy

PMID: 30139594 DOI: 10.1016/j.remn.2018.07.005