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Autor(en) des Beitrags:
Philipp-Abbrederis, Kathrin; Herrmann, Ken; Knop, Stefan; Schottelius, Margret; Eiber, Matthias; Lückerath, Katharina; Pietschmann, Elke; Habringer, Stefan; Gerngroß, Carlos; Franke, Katharina; Rudelius, Martina; Schirbel, Andreas; Lapa, Constantin; Schwamborn, Kristina; Steidle, Sabine; Hartmann, Elena; Rosenwald, Andreas; Kropf, Saskia; Beer, Ambros J; Peschel, Christian; Einsele, Hermann; Buck, Andreas K; Schwaiger, Markus; Götze, Katharina; Wester, Hans-Jürgen; Keller, Ulrich

Titel des Beitrags:
In vivo molecular imaging of chemokine receptor CXCR4 expression in patients with advanced multiple myeloma.

Abstract:
CXCR4 is a G-protein-coupled receptor that mediates recruitment of blood cells toward its ligand SDF-1. In cancer, high CXCR4 expression is frequently associated with tumor dissemination and poor prognosis. We evaluated the novel CXCR4 probe [(68)Ga]Pentixafor for in vivo mapping of CXCR4 expression density in mice xenografted with human CXCR4-positive MM cell lines and patients with advanced MM by means of positron emission tomography (PET). [(68)Ga]Pentixafor PET provided images with excellent specificity and contrast. In 10 of 14 patients with advanced MM [(68)Ga]Pentixafor PET/CT scans revealed MM manifestations, whereas only nine of 14 standard [(18)F]fluorodeoxyglucose PET/CT scans were rated visually positive. Assessment of blood counts and standard CD34(+) flow cytometry did not reveal significant blood count changes associated with tracer application. Based on these highly encouraging data on clinical PET...
imaging of CXCR4 expression in a cohort of MM patients, we conclude that [(68)Ga]Pentixafor PET opens a broad field for clinical investigations on CXCR4 expression and for CXCR4-directed therapeutic approaches in MM and other diseases.