

International Conference on

Nuclear Medicine & Radiation Therapy

July 14-15, 2016 Cologne, Germany

Ra-223-For the treatment of symptomatic osseous metastases in patients with metastatic castration resistant prostate cancer

Walter Noordzij

University of Groningen, The Netherlands

More than 90% of patients with metastatic, castration-resistant prostate cancer have radiological evidence of bone metastases, which are a major cause of death, disability, decreased quality of life and increased treatment cost among these patients. Radium-223-dichloride is a targeted alpha emitter that selectively binds to areas of increased bone turnover in bone metastases and emits high-energy alpha particles of short range (<100 μm). As bone-seeking calcium mimetic, radium-223 is bound into newly formed bone stroma, especially within the microenvironment of osteoblastic or sclerotic metastases. The high-energy alpha-particle radiation induces mainly double-stranded DNA breaks that result in a potent and highly localized cytotoxic effect in the targeted areas. The short path of the alpha particles also means that toxic effects on adjacent healthy tissue and particularly the bone marrow may be minimized. A phase 3 study showed that radium-223 significantly prolonged overall survival in patients who had castration-resistant prostate cancer and bone metastases, with a 30% reduction in the risk of death, as compared to placebo. The median survival was longer among patients who received radium-223 than among those who received placebo, the difference being 3.6 months.

Biography

Walter Noordzij has completed his medical training in nuclear medicine, along with a PhD in cardiac sympathetic innervation, at the Department of Nuclear Medicine and Molecular Imaging at the University Medical Center Groningen. Besides his work as a Nuclear Medicine Physician, he is the coordinator of the research lines 'nuclear intervention' and 'medical education'.

w.noordzij@umcg.nl**Notes:**