

Myocardial Uptake of ^{99m}Tc -DPD in a Patient with Prostate Carcinoma

L Freudenberg, A Hopfenbach, J Esser, W Koska, A Conrads

Citation

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Abstract

We report a 77 year old patient with prostate carcinoma showing benign myocardial uptake of ^{99m}Tc -DPD in routine bone scintigraphy. Complementary diagnostic examinations were performed showing no incidence of systemic heart disease (amyloidosis, hypercalcimia). No previous chemotherapy or cardioversion were performed. Consequently we conclude, the myocardial uptake was secondary to the prostate carcinoma.

CASE-REPORT

A 77-year-old male patient was admitted to Nuclear Medicine for staging of a prostate carcinoma prior to surgery. Planar whole body bone scintigraphy was performed on a Genesys gamma-camera (Single Head, ADAC) 3 h after i.v. administration of 670 MBq of ^{99m}Tc -DPD showing no evidence of bone metastasis but an intensive myocardial tracer-uptake (Figure 1). Consecutive Single Photon Emission Computed Tomography (SPECT) imaging of thorax was acquired demonstrating homogeneous tracer-uptake of the left ventricle (Figure 2).

Figure 1

Figure 1: Planar images (3 h p.i. 670 MBq of ^{99m}Tc -DPD) showing no evidence of bone metastasis but an intensive myocardial tracer-uptake.

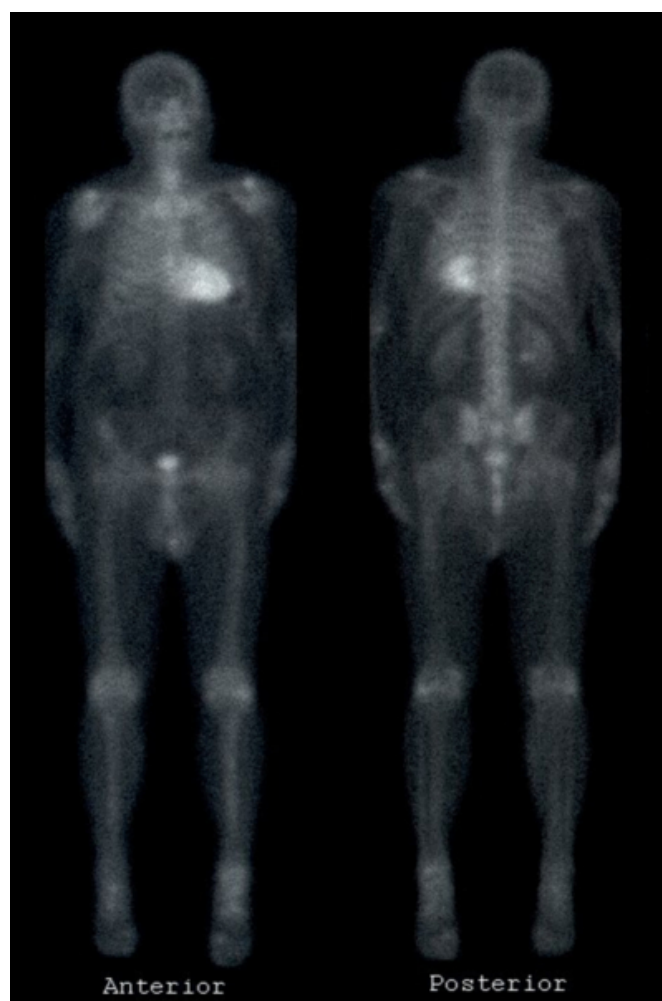
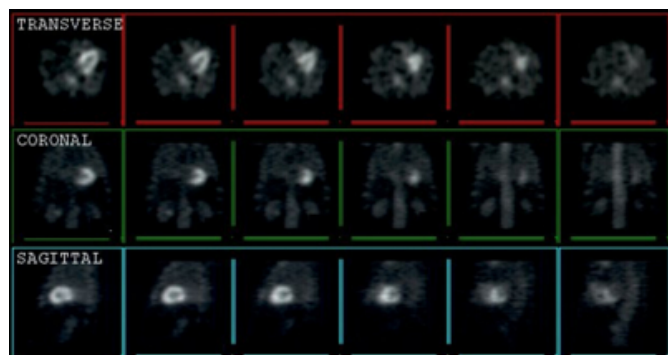


Figure 2

Figure 2: SPECT imaging of thorax (3.5. h p.i. 670 MBq of 99m-Tc-DPD) demonstrate homogeneous tracer-uptake of the left ventricle.



Subsequent clinical workup showed a normally developed asymptomatic patient with normal physical examinations. No previous chemotherapy or cardioversion were performed. Routine laboratory results revealed no pathologic abnormalities including plasma electrolytes. Complementary cardiological examinations were performed showing no incidence of systemic heart disease.

DISCUSSION

Benign myocardial uptake of technetium-99m labelled phosphates has been documented in patients with amyloidosis. Literature described several cases of abnormal myocardial uptake of various bone-imaging tracers in various disease states [1, 2]. Furthermore myocardial uptake of bone tracers was described in other conditions with systemic heart disease [3] or in association with secondary hyperparathyroidism [4].

Besides myocardial uptake of 99m-Tc-HDP and 99mTc-MDP was documented in association with malignant tumours in general [5, 6] and prostatic carcinoma in particular [7, 8]. Most of these patients were over 80 years of age [8]. Although uptake of radiophosphates is attributed to asymptomatic atherosclerotic changes associated with old age, a strong association with prostatic carcinoma exists, which following al-Nahhas et al. [8] indicate variations in

soft tissue affinity of different radiophosphates complexes.

CONCLUSION

We presented a case of abnormal myocardial 99m-Tc-DPD-uptake in a patient without evidence of any cardiac or noncardiac disorder that might account for such uptake. Thus, we conclude, the myocardial uptake was secondary to the prostate carcinoma.

CORRESPONDENCE TO

Dr. med. Lutz S. Freudenberg, M.A., M.B.A., Oec. med. (BI) Nuclear Medicine Röntgeninstitut Grevenbroich Karl-Oberbach-Strasse 19 D-41515 Grevenbroich Germany Tel: +49 / 2181 2259-15 Fax: +49 / 2181 2259-29 Email: l.freudenberg@t-online.de

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Author Information

L. S. Freudenberg

Röntgeninstitut Grevenbroich

A. Hopfenbach

Röntgeninstitut Grevenbroich

J. Esser

Röntgeninstitut Grevenbroich

W. W. Koska

Röntgeninstitut Grevenbroich

A. Conrads

Röntgeninstitut Grevenbroich