

Tc-99m MDP 골 스캔에서 우연히 발견된 악성 심낭 삼출

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Malignant Pericardial Effusion Incidentally Detected by Tc-99m MDP Bone Scintigraphy

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Abstract

We report a case of malignant pericardial effusion originated from adenocarcinoma of the lung incidentally diagnosed by bone scintigraphy, prior to echocardiographic detection. A 76 year-old man with adenocarcinoma of the lung underwent Tc-99m MDP bone scintigraphy to evaluate skeletal metastasis. Anterior images of the chest of the bone scintigraphy unexpectedly showed diffuse increased activity in the region of the heart surrounded by an oval-shaped band of increased activity corresponding to the periphery of the cardiac silhouette (Fig. 1). There was no evidence of bony metastasis. Pericardial effusion was confirmed by echocardiography (Fig. 2) and malignant cells were revealed by subsequent microscopic examination of the pericardial fluid.

Bone scintigraphy using Tc-99m phosphate compounds is commonly used to detect bony metastasis in cancer patients. Tc-99m phosphate compounds occasionally accumulate in extra-osseous sites, including pleural,^{1,2)} pericardial,^{3,4)} and ascitic fluids.^{5,6)} It has been reported that their accumulation in serous effusions should strongly suggest malignancy.¹⁻⁶⁾ The exact mechanism for accumulation of Tc-99m phosphate compounds in serous effusions is unclear. Several investigators have proposed that the radiopharmaceuticals exuded directly from peripheral vessels to the serous cavity due to increased vascularity and vascular permeability, and bleeding by disruption of blood vessels due to cancerous infiltration.^{5,6)} (**Korean J Nucl Med 2001;35:117-124:291-292**)

Key Words: Malignant pericardial effusion, Tc-99m MDP, Bone scintigraphy.

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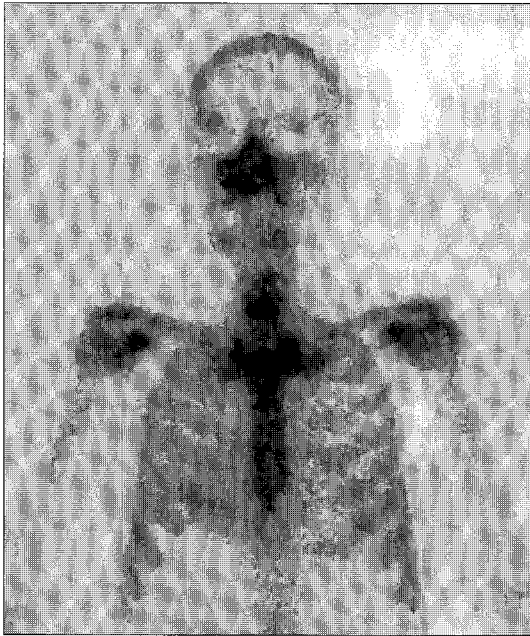


Fig. 1. Anterior images of the chest of the bone scintigraphy show diffuse increased activity in the region of the heart with surrounding oval-shaped band of increased activity corresponding to the periphery of the cardiac silhouette. There was no evidence of bony metastasis.

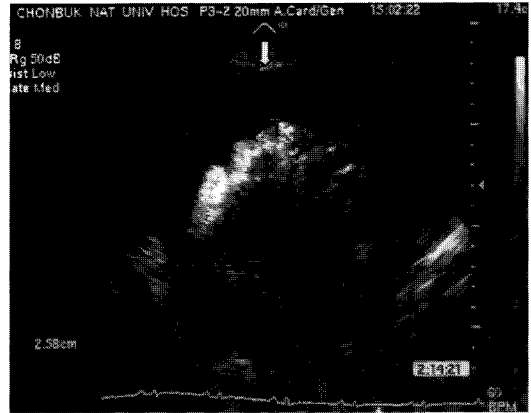


Fig. 2. Echocardiography reveals moderate pericardial effusion (arrow).

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